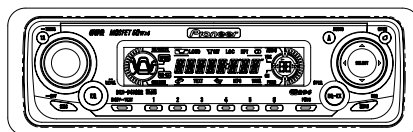


Service Manual



DEH-P5530MP/XN/EW

ORDER NO.
CRT3003

MULTI-CD CONTROL HIGH POWER CD/MP3/WMA PLAYER WITH RDS TUNER

DEH-P5530MP

XN/EW

DEH-P5500MP

XN/EW

COMPACT
disc
DIGITAL AUDIO



● This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech. Module	Remarks
CX-3057	CRT3026	S10MP3	CD Mech. Module:Circuit Description, Mech.Description, Disassembly



For details, refer to "Important symbols for good services".

PIONEER CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.
PIONEER EUROPE NV Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 253 Alexandra Road, #04-01, Singapore 159936

SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

1. Safety Precautions for those who Service this Unit.

- When checking or adjusting the emitting power of the laser diode exercise caution in order to get safe, reliable results.

Caution:

1. During repair or tests, minimum distance of 13cm from the focus lens must be kept.
 2. During repair or tests, do not view laser beam for 10 seconds or longer.
2. A "CLASS 1 LASER PRODUCT" label is affixed to the bottom of the player.
3. The triangular label is attached to the mechanism unit frame.



4. Specifications of Laser Diode

Specifications of laser radiation fields to which human access is possible during service.
Wavelength = 800 nanometers

[Important symbols for good services]

In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely. When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety



You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments



To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning



For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws



To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts



Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount. For replacement parts or tools, the prescribed ones should be used.

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● CD Player Service Precautions



1. Before disassembling the unit, be sure to turn off the power. Unplugging and plugging the connectors during power-on mode may damage the ICs inside the unit.
2. To protect the pickup unit from electrostatic discharge during servicing, take an appropriate treatment(shorting-solder) by referring to "the DISASSEMBLY" on page 55.
3. After replacing the pickup unit, be sure to check the grating.(See p.52.)

1. SPECIFICATIONS

General

Power source	14.4 V DC (10.8 – 15.1 V allowable)
Grounding system	Negative type
Max. current consumption	10.0 A
Backup current	5 mA or less
Dimensions (W × H × D):	
DIN	
Chassis	178 × 50 × 157 mm
Nose	188 × 58 × 20 mm
D	
Chassis	178 × 50 × 162 mm
Nose	170 × 46 × 15 mm
Weight	1.5 kg

Audio

Maximum power output	50 W × 4 50 W × 2/4 Ω + 70 W × 1/2 Ω (for subwoofer)
Continuous power output ...	27 W × 4 (DIN 45324, +B=14.4 V)
Load impedance	4 Ω (4 – 8 Ω [2 Ω for 1 ch] allowable)
Preout max output level/output impedance	2.2 V/1 kΩ
Equalizer (3-Band Parametric Equalizer):	
Low	
Frequency	40/80/100/160 Hz
Q Factor	0.35/0.59/0.95/1.15 (+6 dB when boosted)
Gain	±12dB
Mid	
Frequency	200/500/1k/2k Hz
Q Factor	0.35/0.59/0.95/1.15 (+6 dB when boosted)
Gain	±12dB
High	
Frequency	3.15k/8k/10k/12.5k Hz
Q Factor	0.35/0.59/0.95/1.15 (+6 dB when boosted)
Gain	±12dB
Loudness contour	
Low	+3.5 dB (100 Hz), +3 dB (10 kHz)
Mid	+10 dB (100 Hz), +6.5 dB (10 kHz)
High	+11 dB (100 Hz), +11 dB (10 kHz) (volume: -30 dB)

Tone controls:

Bass	
Frequency	40/63/100/160 Hz
Gain	±12dB
Treble	
Frequency	2.5k/4k/6.3k/10k Hz
Gain	±12dB

HPF:

Frequency	50/80/125 Hz
Slope	-12 dB/oct

Subwoofer:

Frequency	50/80/125 Hz
Slope	-18 dB/oct
Gain	±12dB
Phase	Normal/Reverse

CD player

System	Compact disc audio system
Usable discs	Compact disc
Signal format:	
Sampling frequency	44.1 kHz
Number of quantization bits	16; linear
Frequency characteristics ...	5 – 20,000 Hz (±1 dB)
Signal-to-noise ratio	94 dB (1 kHz) (IEC-A network)
Dynamic range	92 dB (1 kHz)
Number of channels	2 (stereo)
MP3 decoding format	MPEG-1 & 2 Audio Layer 3
WMA decoding format	Ver. 7 & 8

FM tuner

Frequency range	87.5 – 108.0 MHz
Usable sensitivity	8 dBf (0.7 μV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity	10 dBf (0.9 μV/75 Ω, mono)
Signal-to-noise ratio	75 dB (IEC-A network)
Distortion	0.3 % (at 65 dBf, 1 kHz, stereo) 0.1 % (at 65 dBf, 1 kHz, mono)
Frequency response	30 – 15,000 Hz (±3 dB)
Stereo separation	45 dB (at 65 dBf, 1 kHz)
Selectivity	80 dB (±200 kHz)

MW tuner

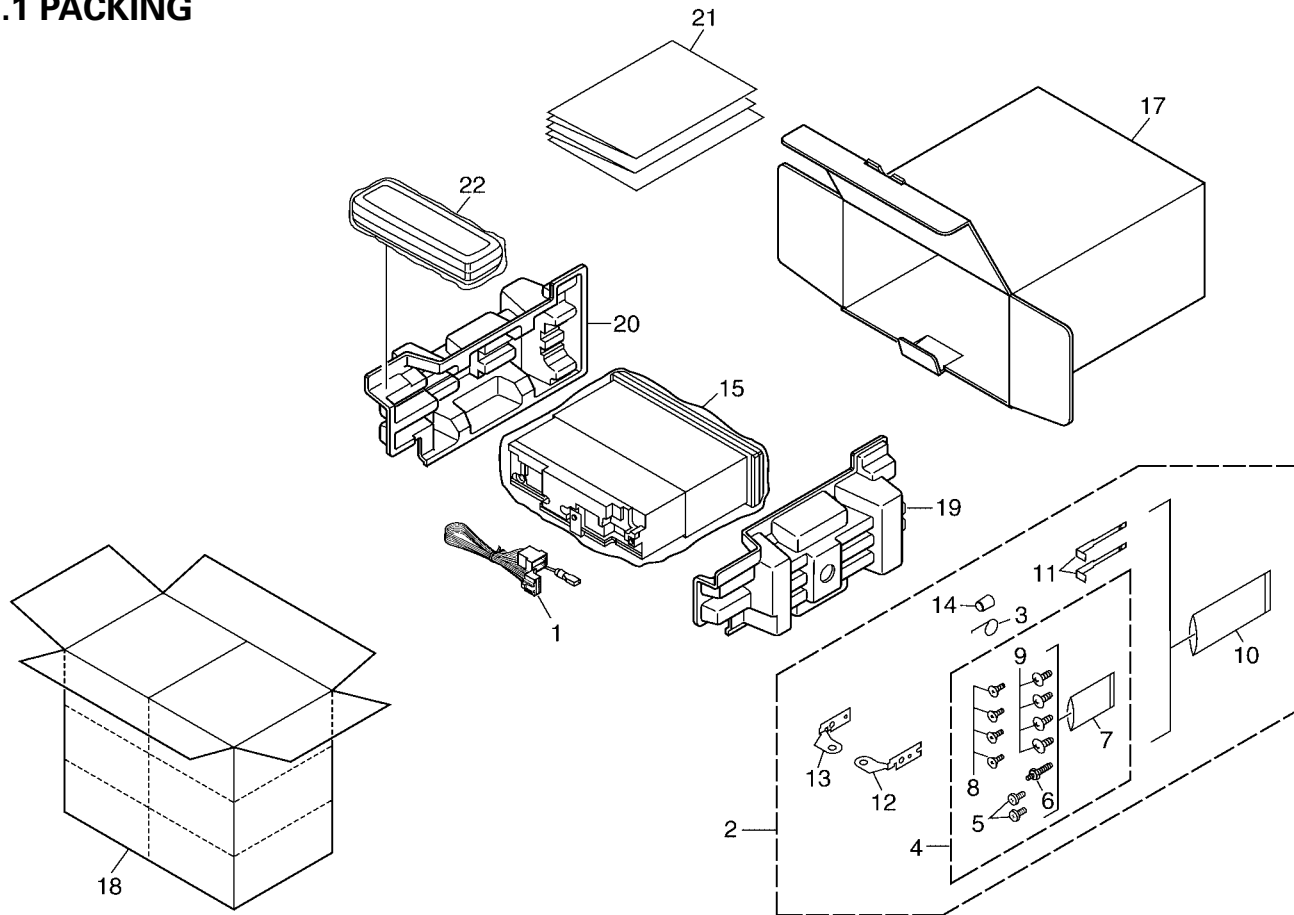
Frequency range	531 – 1,602 kHz (9 kHz)
Usable sensitivity	18 μV (S/N: 20 dB)
Signal-to-noise ratio	65 dB (IEC-A network)

LW tuner

Frequency range	153 – 281 kHz
Usable sensitivity	30 μV (S/N: 20 dB)
Signal-to-noise ratio	65 dB (IEC-A network)

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING



NOTE:

- Parts marked by "*" are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ▽ mark on the product are used for disassembly.
- For the applying amount of lubricants or glue, follow the instructions in this manual.
(In the case of no amount instructions, apply as you think it appropriate.)

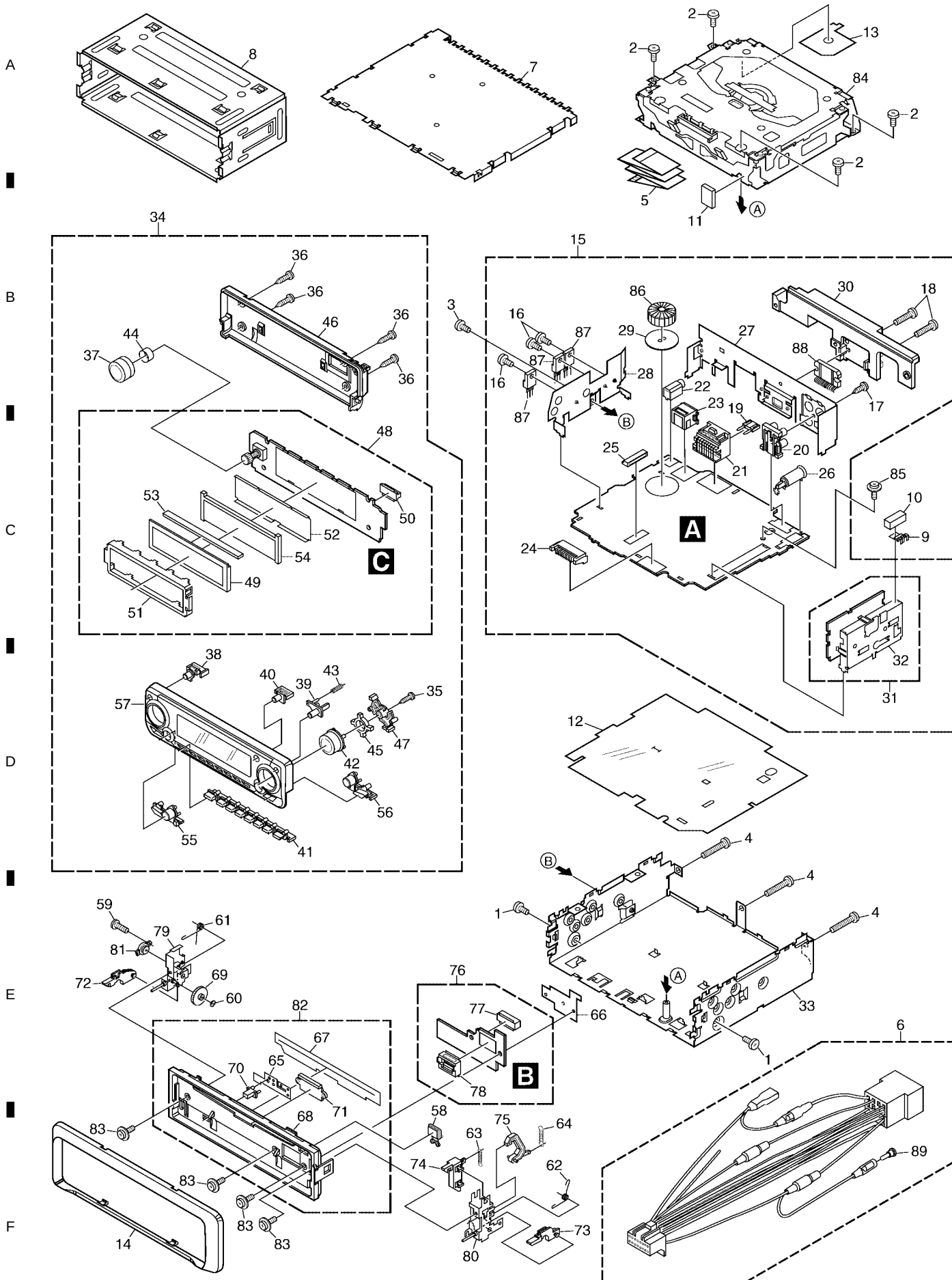
● PACKING SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
	1 Cord Assy	CDE7153	16		
	2 Accessory Assy	CEA3376	17	Carton(DEH-P5530MP/XN/EW)	CHG4945
	3 Spring	CBH1650		Carton(DEH-P5500MP/XN/EW)	CHG4940
	4 Screw Assy	CEA3848	18	Contain Box(DEH-P5530MP/XN/EW)	CHL4945
	5 Fixing Screw	BPZ20P060FZK		Contain Box(DEH-P5500MP/XN/EW)	CHL4940
	6 Screw	CBA1650	19	Protector	CHP2663
*	7 Polyethylene Bag	CEG-127	20	Protector	CHP2664
	8 Screw	CRZ50P090FTC	21-1	Owner's Manual	CRD3716
	9 Screw	TRZ50P080FTC	21-2	Owner's Manual	CRD3717
*	10 Polyethylene Bag	CEG-158	21-3	Owner's Manual	CRD3718
	11 Handle	CNC5395	21-4	Installation Manual	CRD3719
	12 Holder	CND1249	*	21-5 Passport	CRY1013
	13 Holder	CND1250	*	21-6 Warranty Card	CRY1157
	14 Bush	CNV3930	22	Case Assy	CXB3520
	15 Polyethylene Bag	CEG-162			

● **Owner's Manual, Installation Manual**

Model	Part No.	Language
DEH-P5530MP/XN/EW DEH-P5500MP/XN/EW	CRD3716	English, Spanish
	CRD3717	German, French
	CRD3718	Italian, Dutch
	CRD3719	English, Spanish, German, French, Italian, Dutch

2.2 EXTERIOR



(1) EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.	
1	Screw	BMZ30P040FZK	46	Cover	CNS7247	A
2	Screw	BSZ26P060FTC	47	Holder	CNV7405	
3	Screw	BSZ30P060FTC	48	Keyboard Unit	See Contrast table(2)	
4	Screw	BSZ30P200FTC	49	LCD	CAW1752	
5	Cable	CDE7065	50	Connector(CN1901)	CKS4524	
6	Cord Assy	CDE7153	51	Holder	CND1215	
7	Case	CNB2870	52	Sheet	CNM7921	
8	Holder	CNC8659	53	Connector	CNV7365	
9	Earth Plate	CNC8915	54	Lighting Conductor	CNV7406	B
10	Cushion	CNM4870	55	Button Unit(SRC, EQ)	CXB9924	
11	Insulator	CNM7682	56	Button Unit(BAND, EQ-EX)	CXB9925	
12	Insulator	CNM7935	57	Sub Grille Assy	See Contrast table(2)	
13	Insulator	CNM8174	58	Button(EJECT)	CAC7752	
14	Panel	See Contrast table(2)	59	Screw(M2x4)	CBA1649	
15	Tuner Amp Unit	CWM8587	60	Washer	CBF1038	
16	Screw	ASZ26P060FTC	61	Spring	CBH2650	
17	Screw	BPZ26P080FTC	62	Spring	CBH2651	
18	Screw	BSZ26P160FTC	63	Spring	CBH2652	
19	Fuse(10A)	CEK1208	64	Spring	CBH2653	C
20	Pin Jack(CN352)	CKB1051	65	Spring	CBL1512	
21	Plug(CN901)	CKM1376	66	Holder	CND1254	
22	Jack(CN151)	CKN1027	67	Cover	CNM6854	
23	Connector(CN101)	CKS3408	68	Panel	See Contrast table(2)	
24	Plug(CN801)	CKS3537	69	Gear	CNV5997	
25	Connector(CN651)	CKS3837	70	Pin	CNV6486	
26	Antenna Jack(CN401)	CKX1056	71	Lighting Conductor	CNV6487	
27	Holder	CND1236	72	Arm	CNV7400	
28	Holder	CND1352	73	Arm	CNV7401	D
29	Insulator	CNM8245	74	Arm	CNV7402	
30	Heat Sink	CNR1668	75	Arm	CNV7403	
31	FM/AM Tuner Unit	CWE1645	76	Panel Unit	CWM8758	
32	Holder	CND1054	77	Socket(CN1950)	CKS3550	
33	Chassis Unit	See Contrast table(2)	78	Connector(CN1951)	CKS4462	
34	Detach Grille Assy	See Contrast table(2)	79	Holder Unit	CXB9501	
35	Screw	BPZ20P060FTC	80	Holder Unit	CXB9502	
36	Screw	BPZ20P100FZK	81	Damper Unit	CXB9503	
37	Knob	See Contrast table(2)	82	Service Panel Unit	See Contrast table(2)	
38	Button(TA)	CAC7727	83	Screw	IMS20P045FZK	E
39	Button(OPEN)	CAC7728	84	CD Mechanism Module(S10MP3)	CXK5661	
40	Button(AUDIO)	CAC7729	85	Screw	ISS26P055FTC	
41	Button(DISP, 1-6, FUNC)	CAC7730	86	Choke Coil(L301)	CTH1280	
42	Button(SELECT)	See Contrast table(2)	87	Transistor(Q651, 911, 921)	2SD2396	
43	Spring	CBH2654	88	IC(IC301)	PAL007A	
44	Spring	CBL1470	89	Cap	CKX-003	
45	Cushion	CNM8291				F

(2) CONTRAST TABLE**DEH-P5530MP/XN/EW and DEH-P5500MP/XN/EW are constructed the same except for the following:**

Mark No.	Symbol and Description	Part No.	
		DEH-P5530MP/XN/EW	DEH-P5500MP/XN/EW
14	Panel	CNS7482	CNS6934
33	Chassis Unit	CXC1170	CXB9529
34	Detach Grille Assy	CXC1172	CXB9671
37	Knob	CAA2777	CAA2753
42	Button(SELECT)	CAC8005	CAC7731
48	Keyboard Unit	CWM8796	CWM8602
57	Sub Grille Assy	CXC1173	CXB9970
68	Panel	CNS7310	CNS7245
82	Service Panel Unit	CXX1694	CXX1691



5



6



7



8



A



B



C



D



E



F



5



6



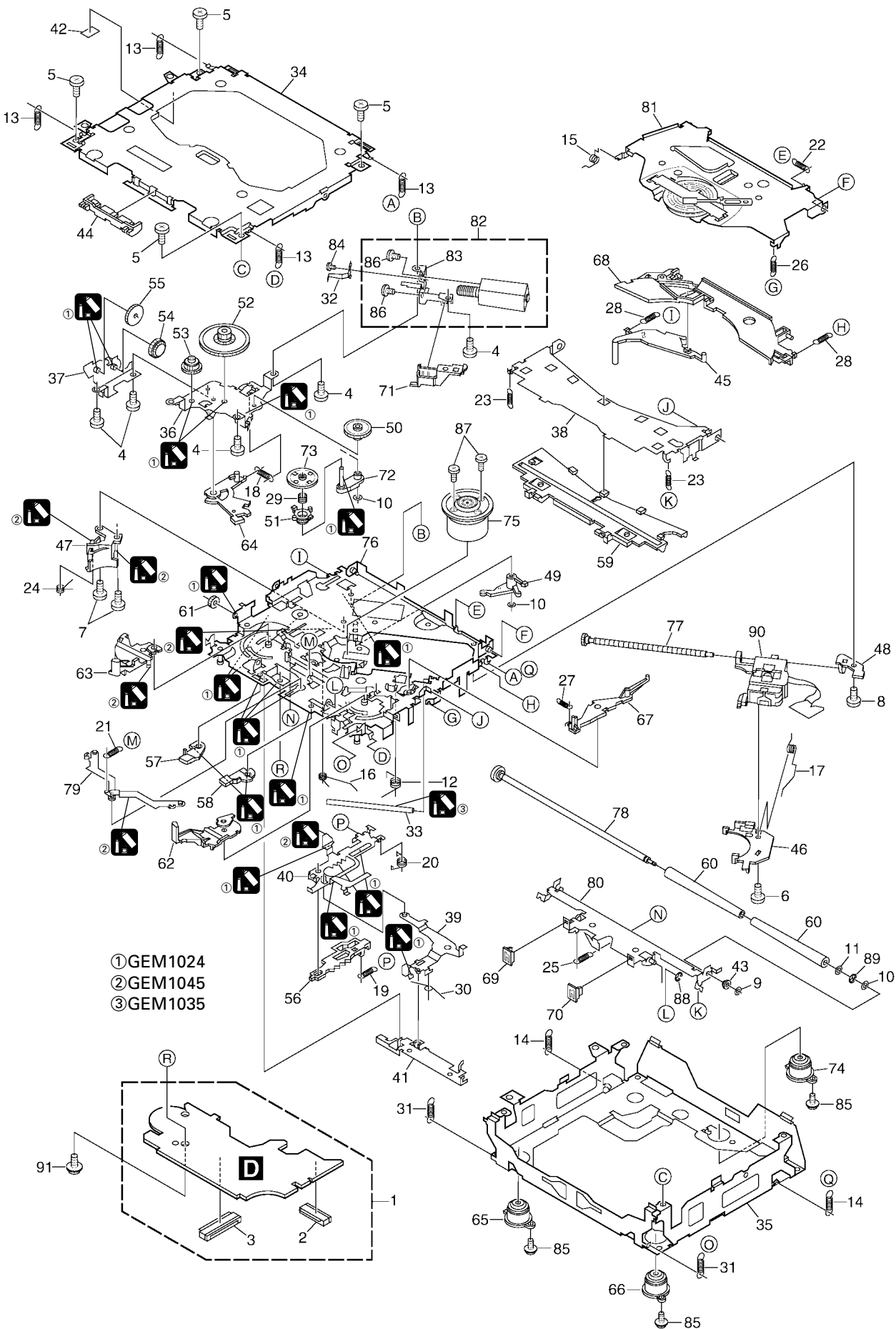
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8



2.3 CD MECHANISM MODULE

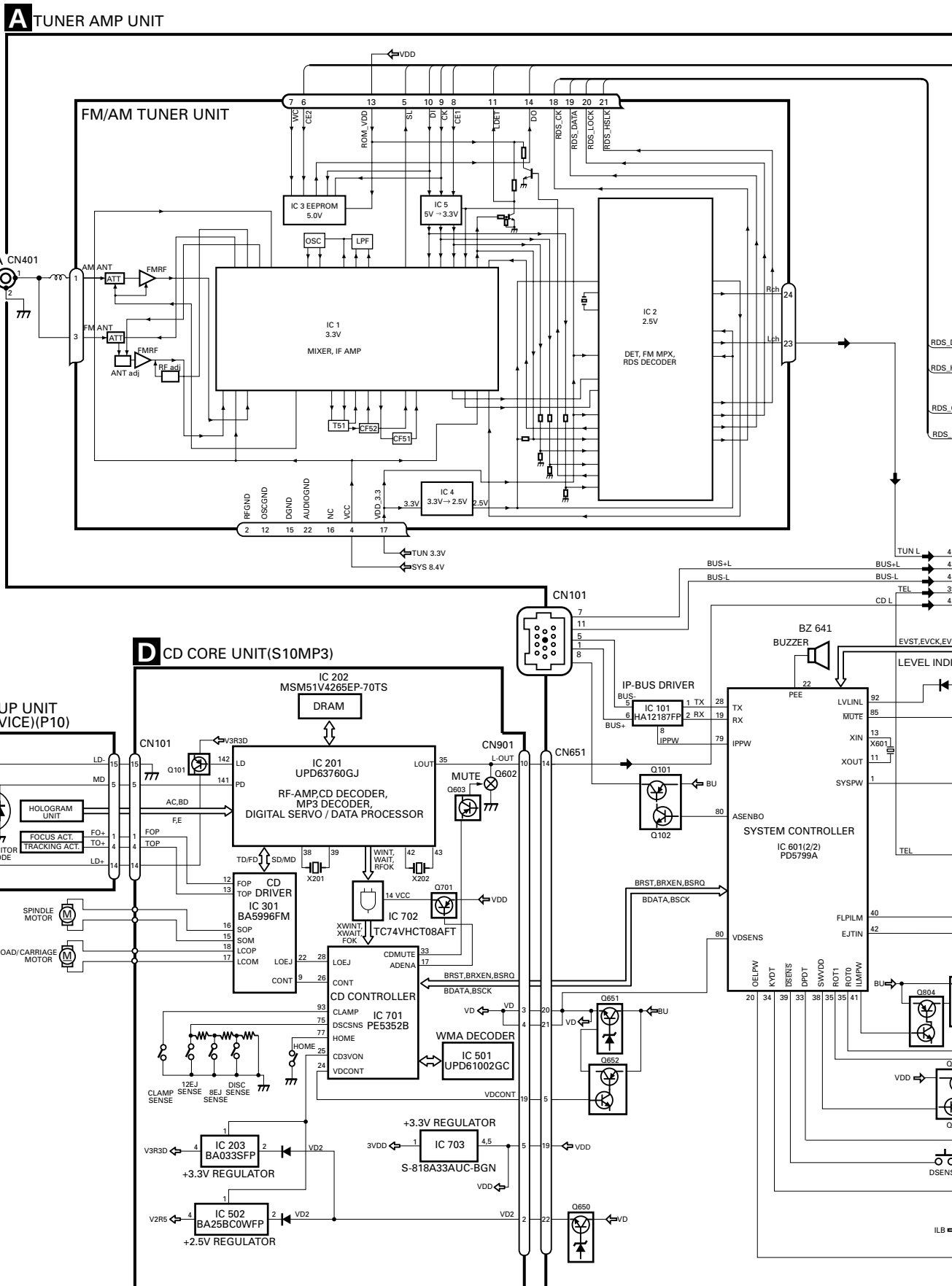


● CD MECHANISM MODULE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	CD Core Unit(S10MP3)	CWX2743	46	Rack	CNV7199
2	Connector(CN101)	CKS4182	47	Holder	CNV7201
3	Connector(CN901)	CKS4017	48	Holder	CNV7202
4	Screw	BMZ20P035FTC	49	Arm	CNV7203
5	Screw	BSZ20P040FTC	50	Gear	CNV7207
6	Screw(M2x4)	CBA1362	51	Gear	CNV7208
7	Screw(M2x3)	CBA1511	52	Gear	CNV7209
8	Screw(M2x3)	CBA1527	53	Gear	CNV7210
9	Washer	CBF1037	54	Gear	CNV7211
10	Washer	CBF1038	55	Gear	CNV7212
11	Washer	CBF1060	56	Rack	CNV7214
12	Spring	CBH2390	57	Arm	CNV7215
13	Spring	CBH2606	58	Arm	CNV7216
14	Spring	CBH2607	59	Guide	CNV7217
15	Spring	CBH2608	60	Roller	CNV7218
16	Spring	CBH2609	61	Gear	CNV7219
17	Spring	CBH2610	62	Arm	CNV7221
18	Spring	CBH2611	63	Arm	CNV7220
19	Spring	CBH2612	64	Arm	CNV7222
20	Spring	CBH2613	65	Damper	CNV7313
21	Spring	CBH2614	66	Damper	CNV7314
22	Spring	CBH2615	67	Arm	CNV7341
23	Spring	CBH2616	68	Arm	CNV7342
24	Spring	CBH2617	69	Guide	CNV7360
25	Spring	CBH2620	70	Guide	CNV7361
26	Spring	CBH2621	71	Holder	CNV7437
27	Spring	CBH2641	72	Arm	CNV7444
28	Spring	CBH2642	73	Gear	CNV7595
29	Spring	CBH2643	74	Damper	CNV7618
30	Spring	CBH2659	75	Motor Unit(M1)	CXB6007
31	Spring	CBH2688	76	Chassis Unit	CXB8728
* 32	Spring	CBL1614	77	Screw Unit	CXB8729
33	Shaft	CLA3845	78	Gear Unit	CXB8731
34	Frame	CNC9962	79	Arm Unit	CXB8732
35	Frame	CNC9963	80	Arm Unit	CXB8735
36	Bracket	CNC9966	81	Arm Unit	CXB8852
37	Bracket	CNC9967	82	Motor Unit(M2)	CXB8933
38	Arm	CNC9968	83	Bracket	CNC9985
39	Arm	CNC9973	84	Screw	JFZ20P020FTC
40	Lever	CNC9983	85	Screw(M2x5)	EBA1028
41	Lever	CNC9984	86	Screw	JFZ20P020FTC
42	Sheet	CNM8134	87	Screw	JGZ17P022FTC
43	Collar	CNV6906	88	Washer	YE15FTC
44	Guide	CNV6925	89	Washer	YE20FTC
45	Arm	CNV7198	90	Pickup Unit(Service)(P10)	CXX1641
			91	Screw	IMS26P030FMC

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

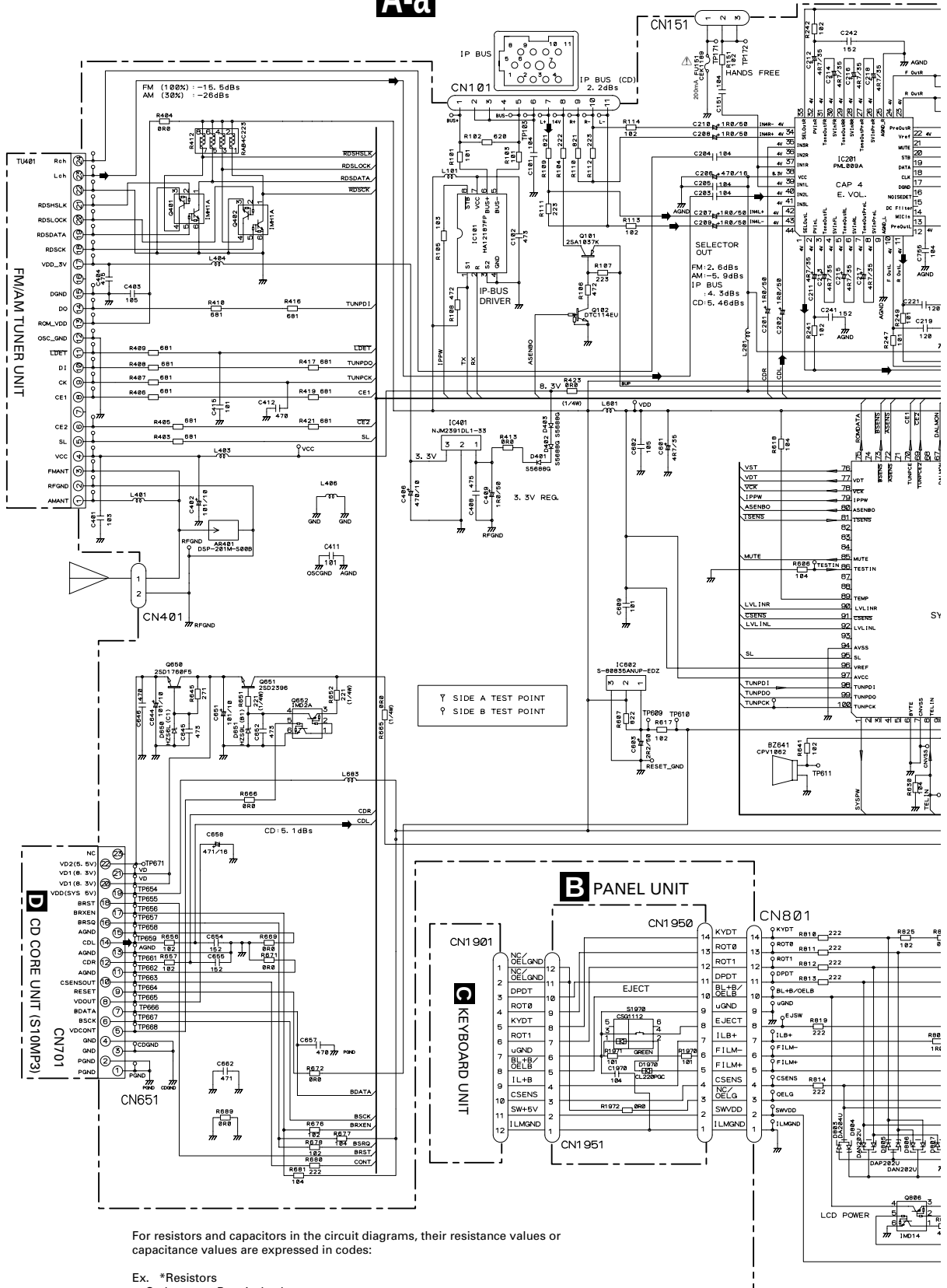
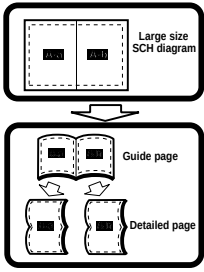




3.2 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

A-a



For resistors and capacitors in the circuit diagrams, their resistance values or capacitance values are expressed in codes:

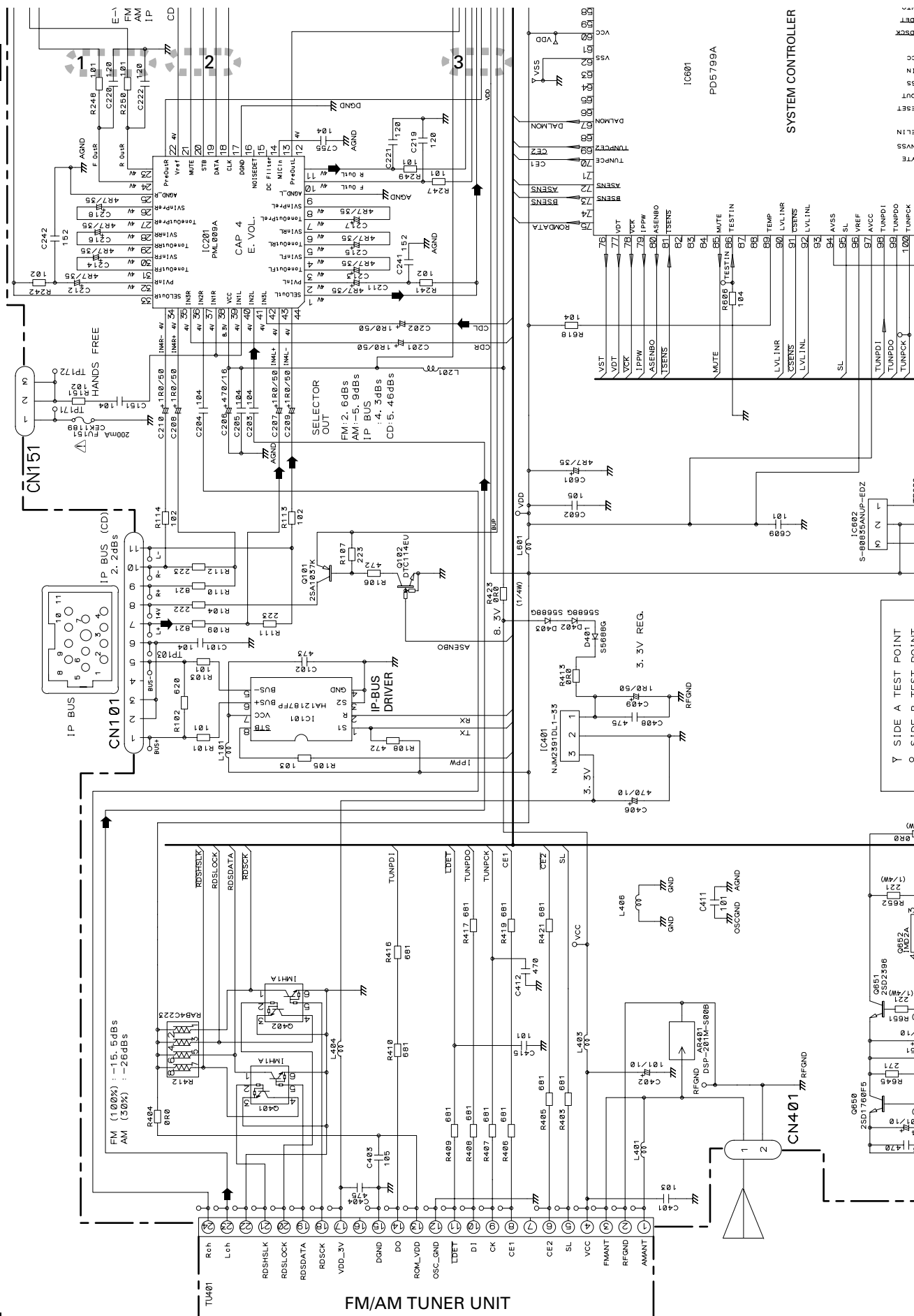
Ex. *Resistors
Code Practical value
123 12k ohms
103 10k ohms

*Capacitors
Code Practical value
103 0.01uF
101/10 100uF/10V

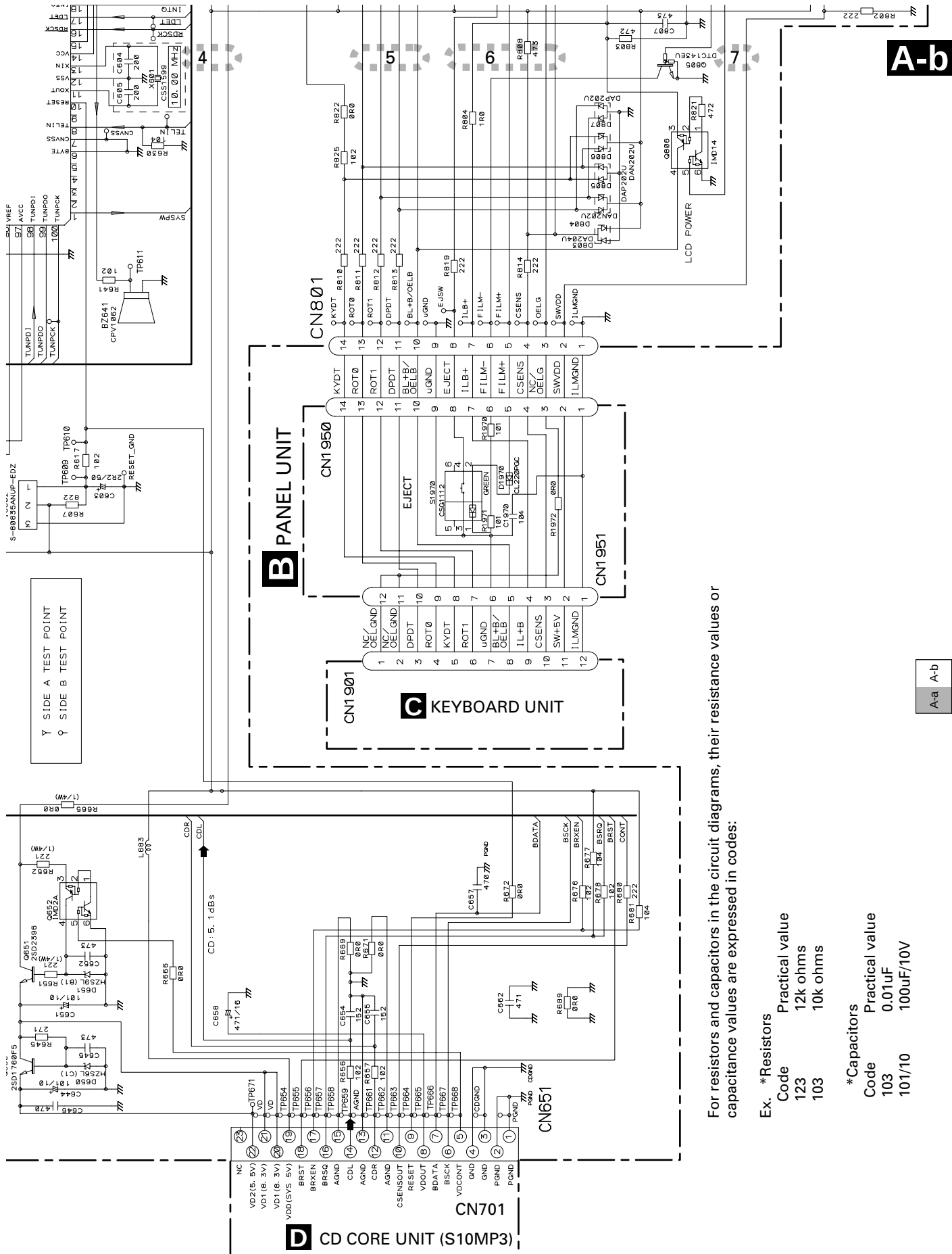
F



A-a	A-b
-----	-----



A-a



For resistors and capacitors in the circuit diagrams, their resistance values or capacitance values are expressed in codes:

Ex. *Resistors	
Code	Practical value
123	12k ohms
103	10k ohms
*Capacitors	
Code	Practical value
103	0.01uF
101/10	100uF/10V

A-b

A-a

A

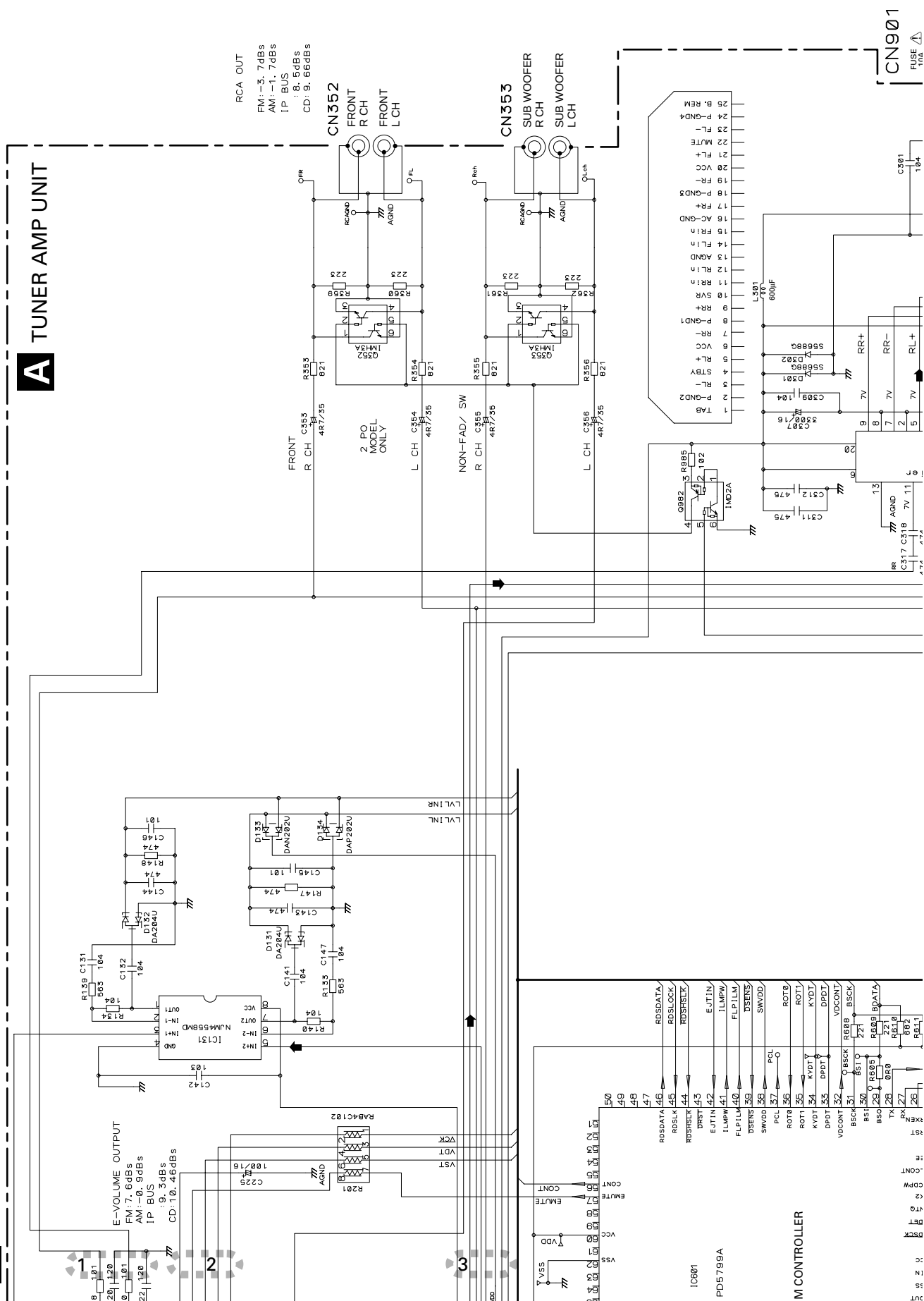
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D

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F



RCA OUT
FM: -3.7 dBs
AM: -1.7 dBs
IP BUS
: 8.5 dBs
CD: 9.66 dBs

CN352
FRONT

CN353

CN901

FUSE
10A

A-b

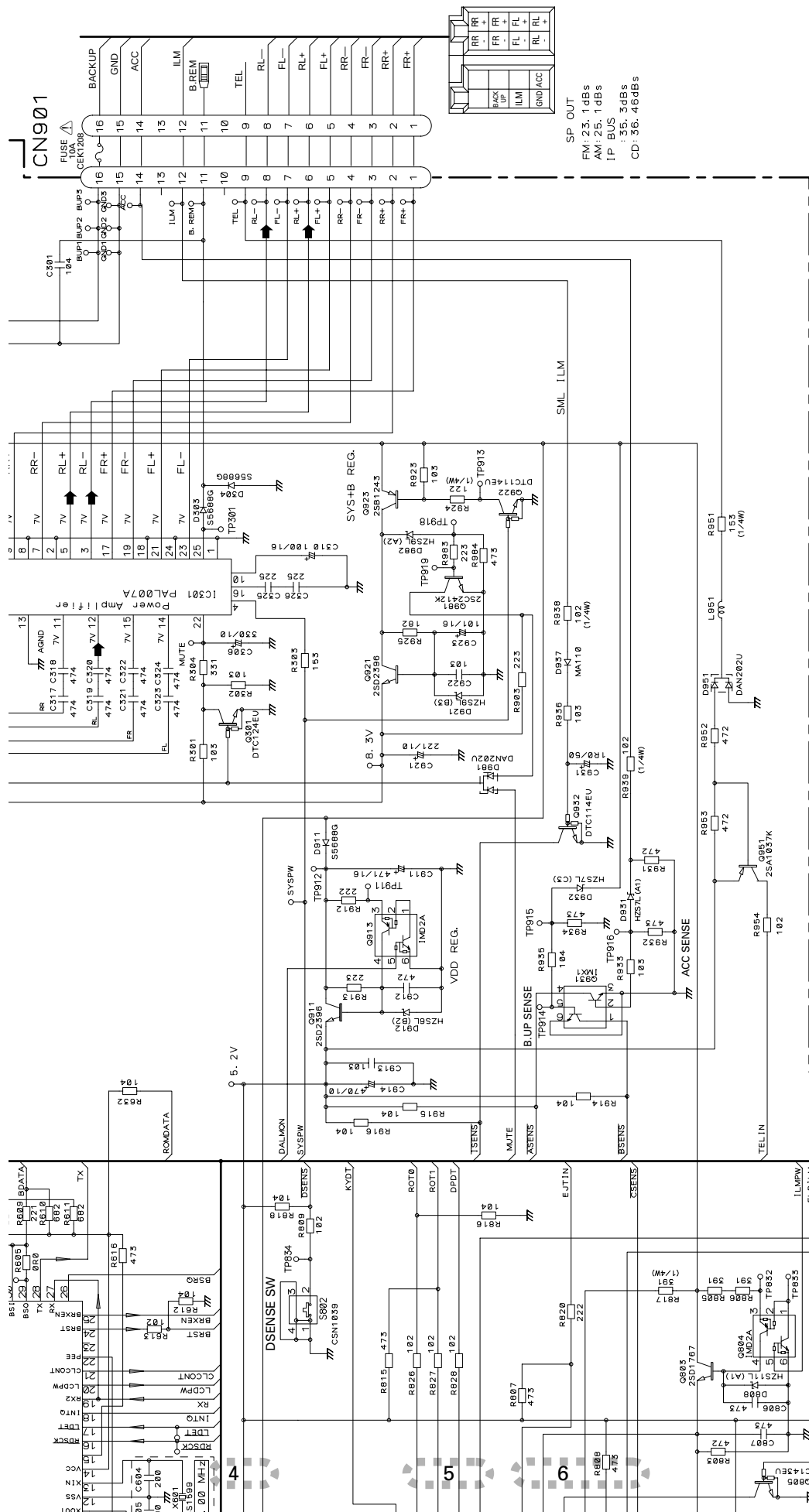
DEH-P5530MP/XN/EW

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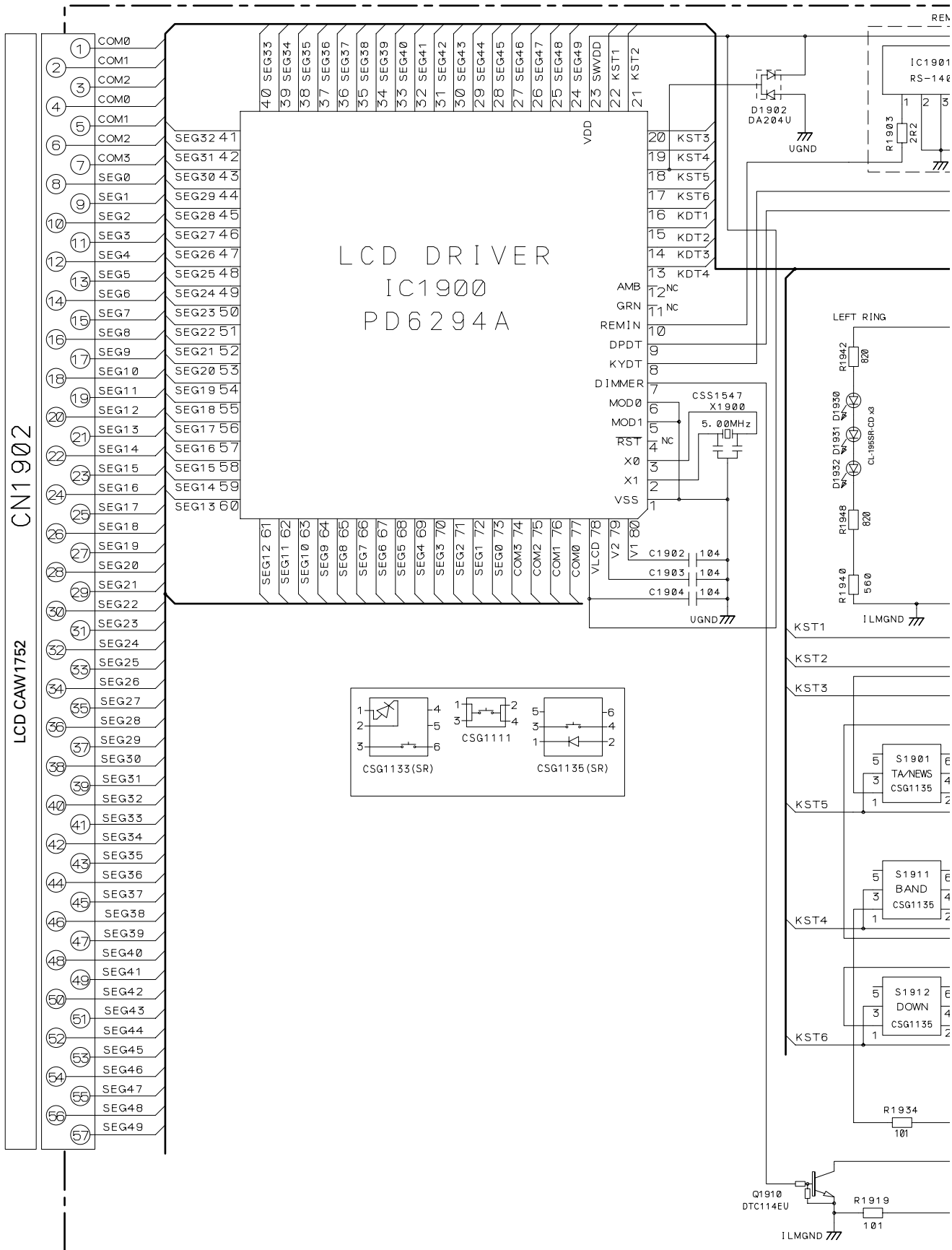
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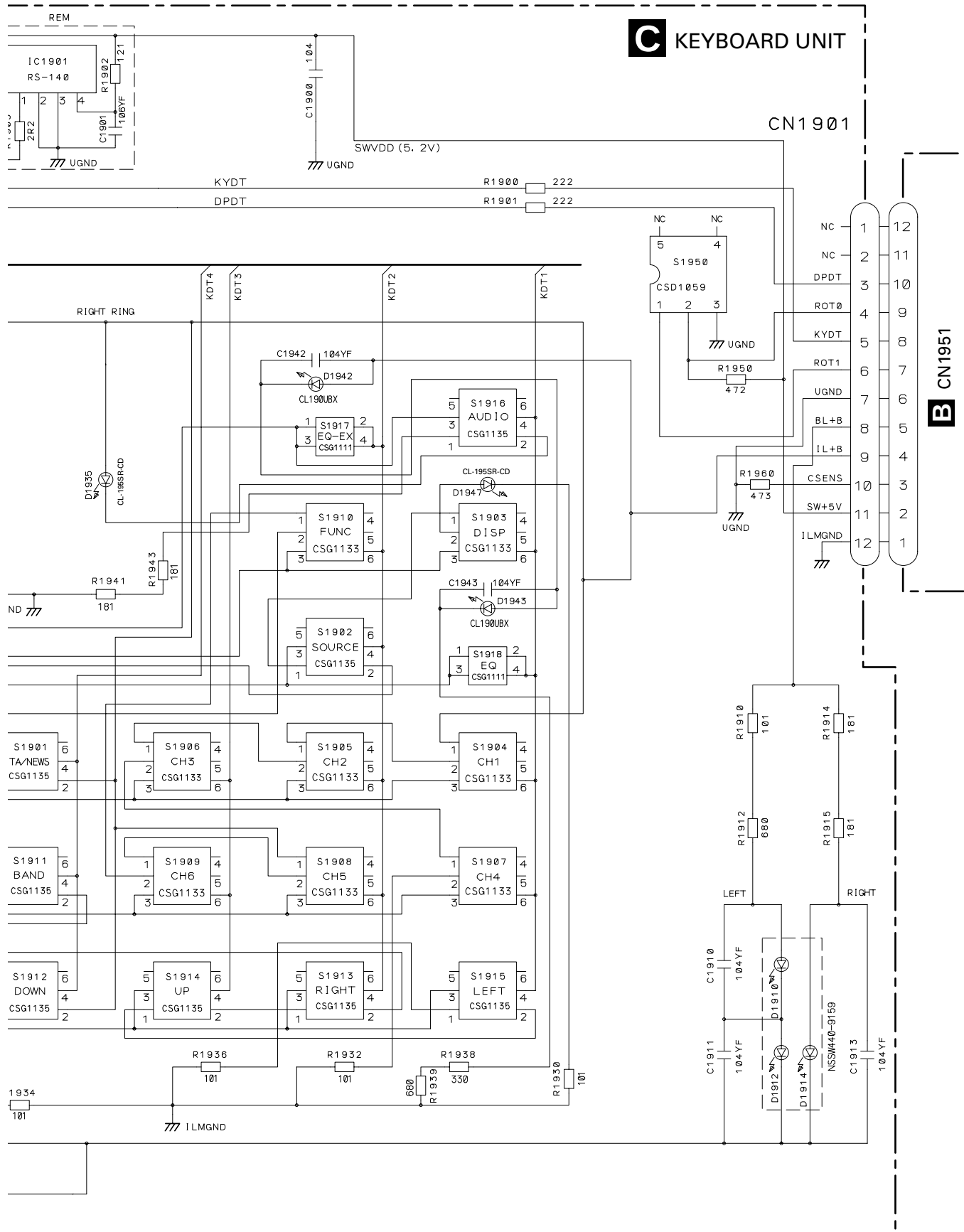


The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

A-b

3.3 KEYBOARD UNIT(DEH-P5530MP/XN/EW)





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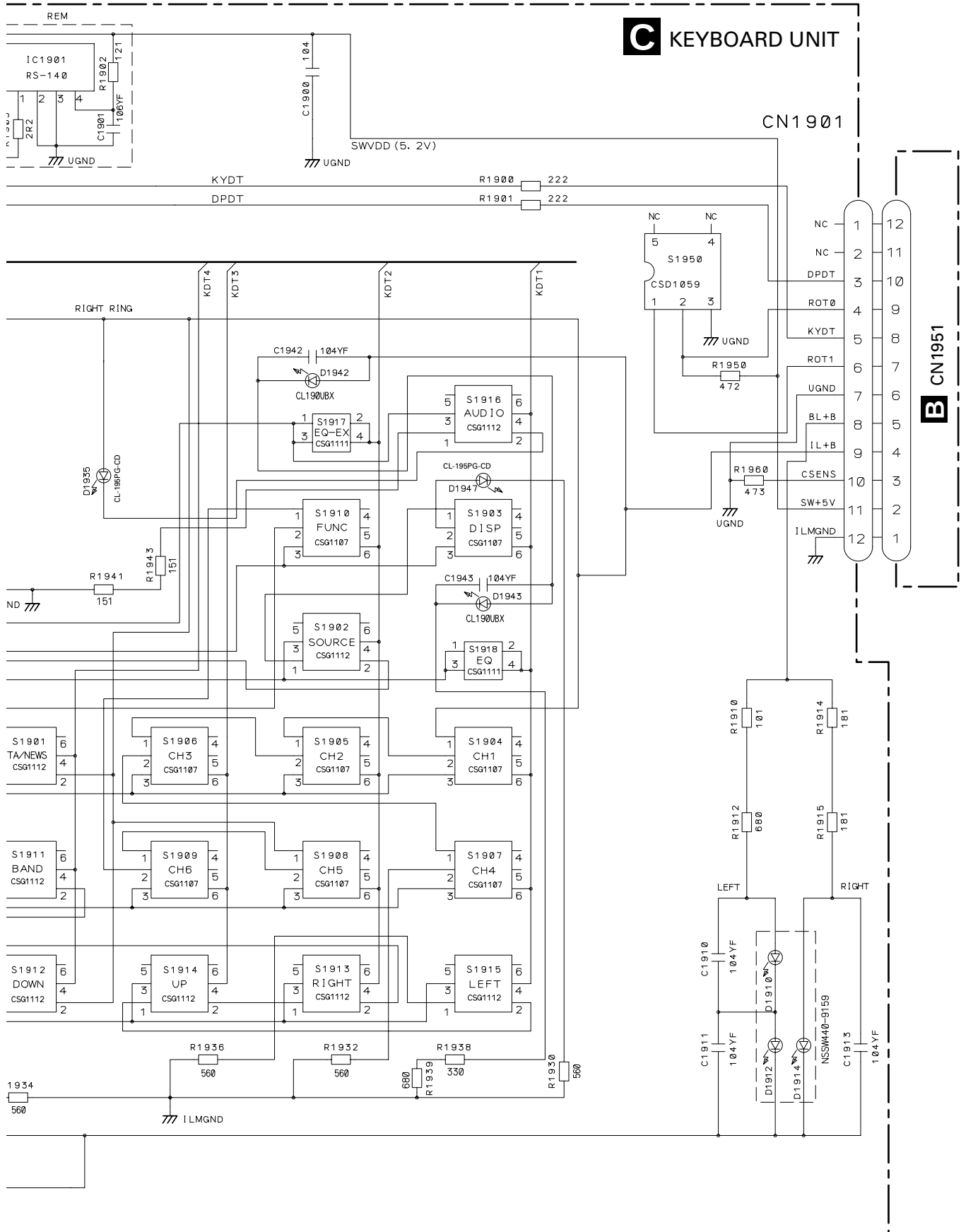
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C KEYBOARD UNIT



3.5 CD MECHANISM MODULE(GUIDE PAGE)

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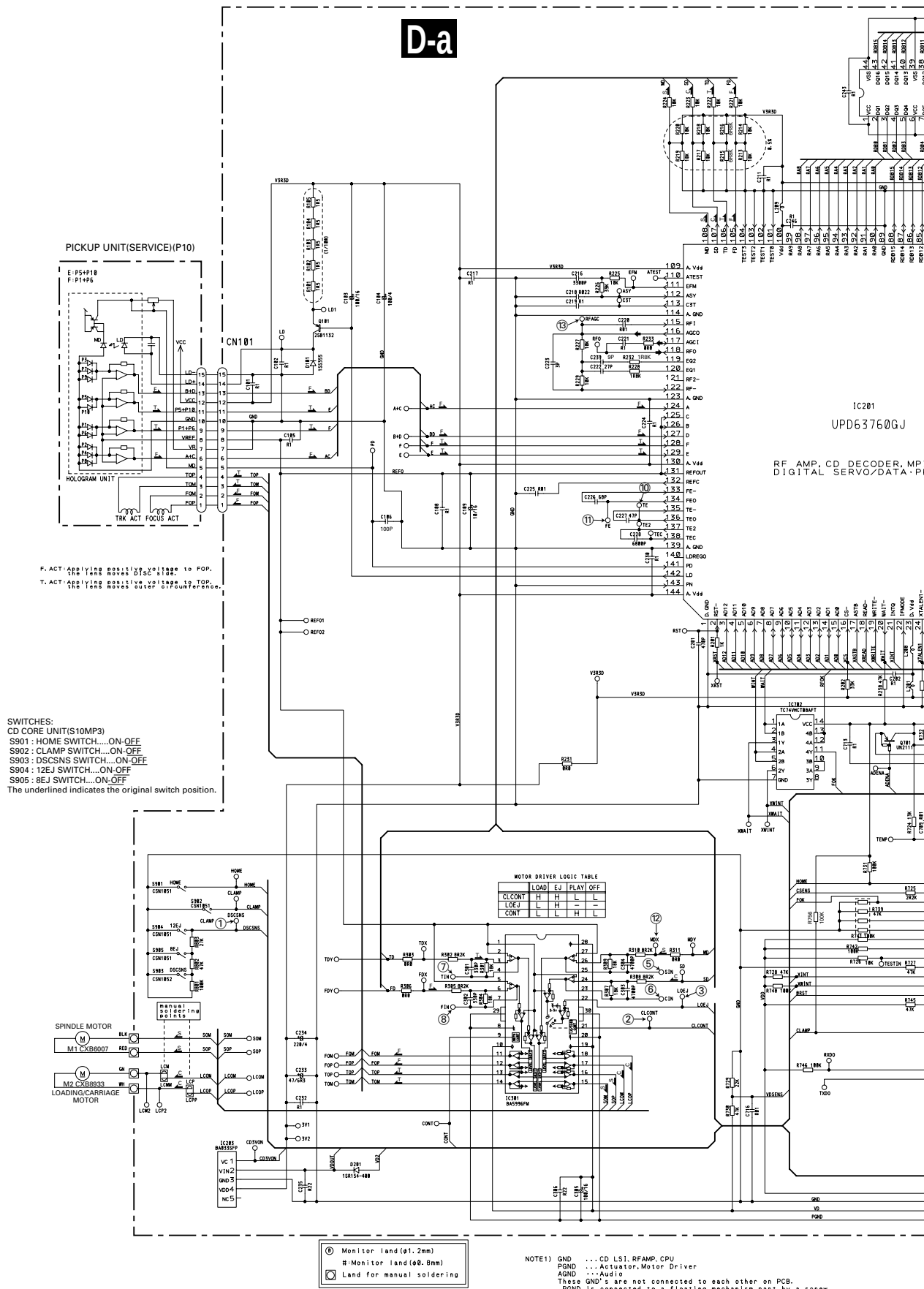
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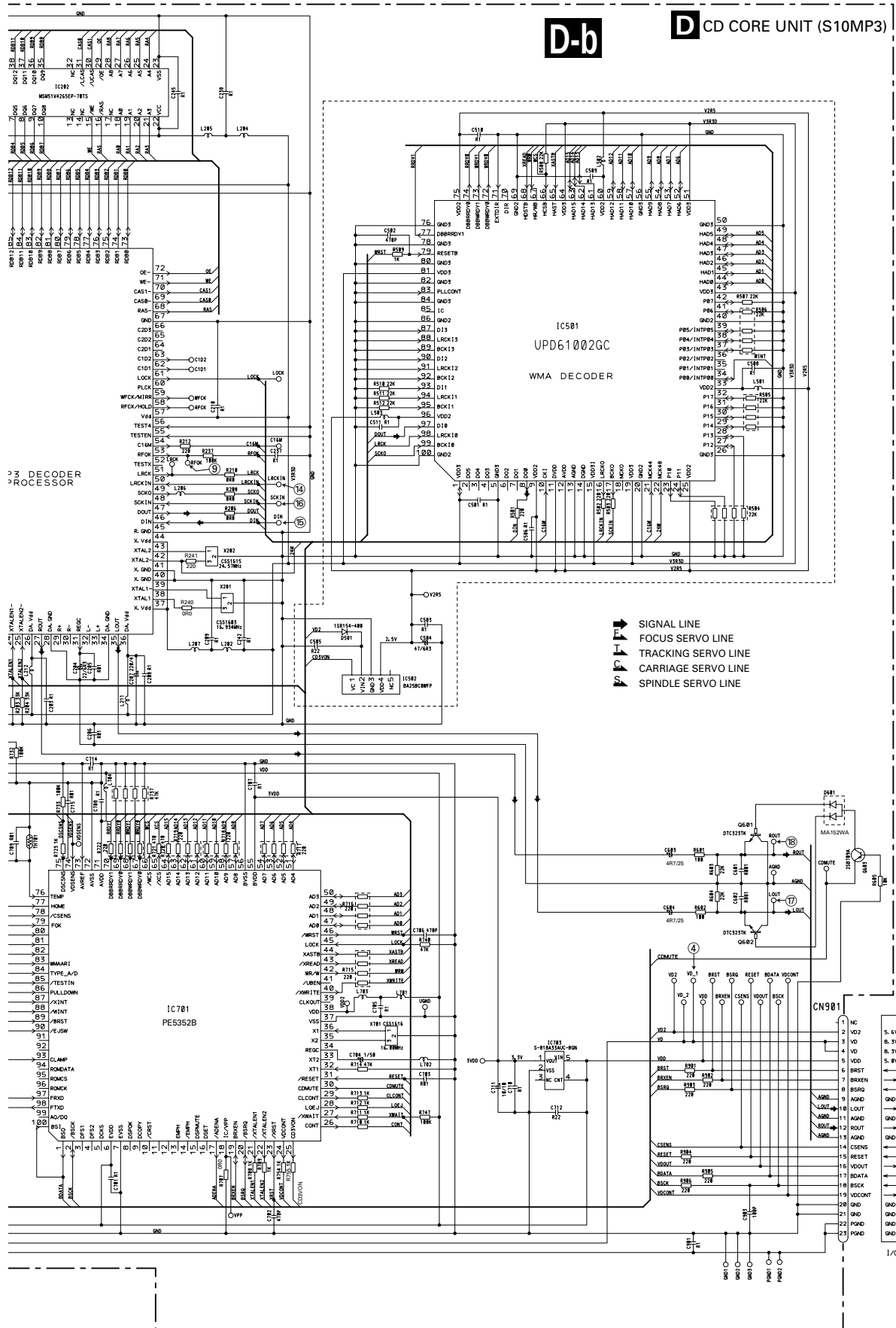
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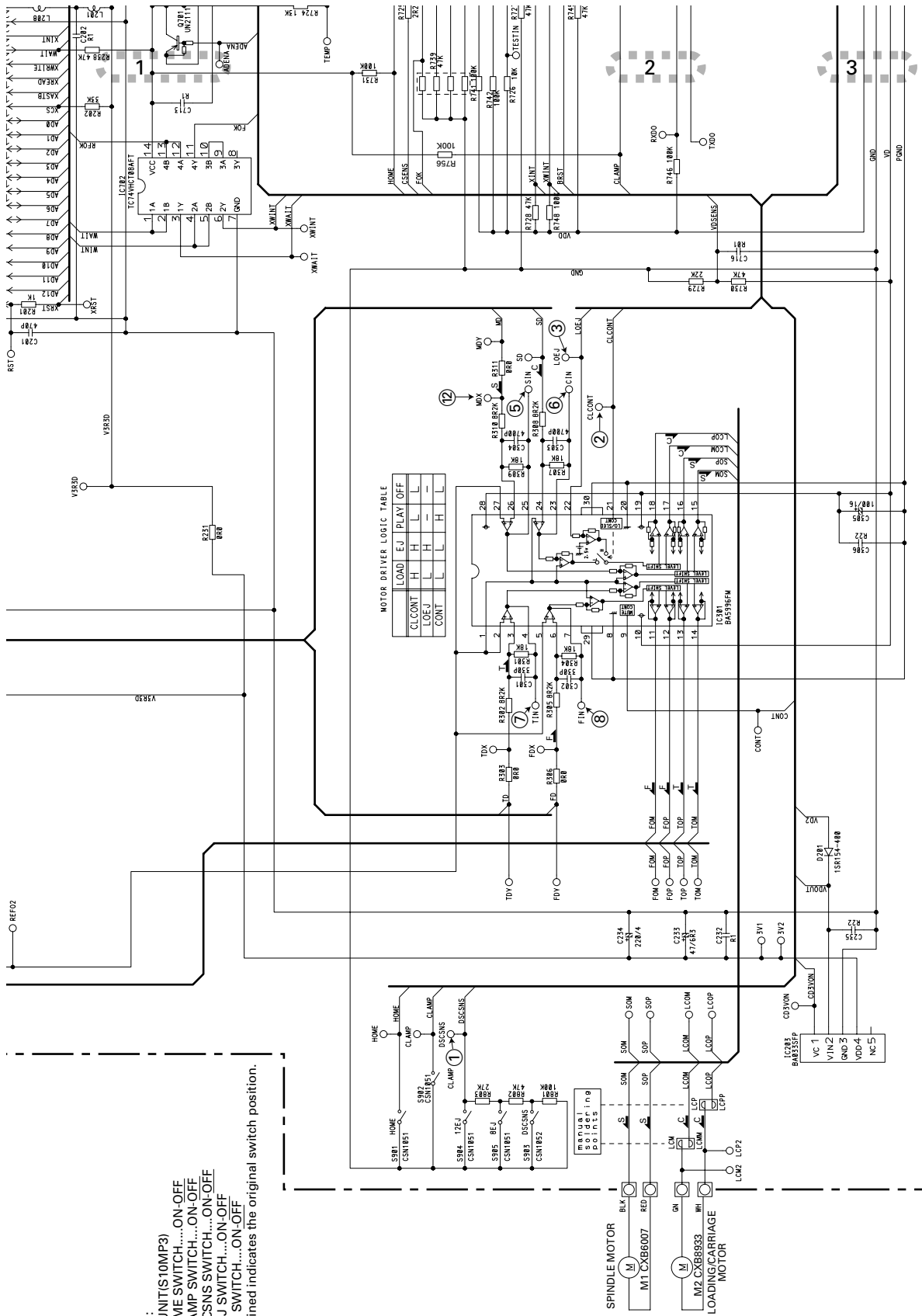
D

E

F







SWITCHES:
CD CORE UNIT(S10MP3)
S901 : HOME SWITCH.....ON-OFF
S902 : CLAMP SWITCH....ON-OFF
S903 : DSCSNS SWITCH....ON-OFF
S904 : 12EJ SWITCH....ON-OFF
S905 : 8EJ SWITCH.....ON-OFF
The underlined indicates the original.

NOTE1) GND ... CD LSI, RFAMP, CPU
PGND ... Actuator, Motor Driver
AGND ... Audio
These GND's are not connected to each other on PCB.
PGND is connected to a floating mechanism part by a screw.

② Monitor land (φ1.2mm)
#:Monitor land (φ0.8mm)
Land for manual soldering

A

B

C

D

E

F

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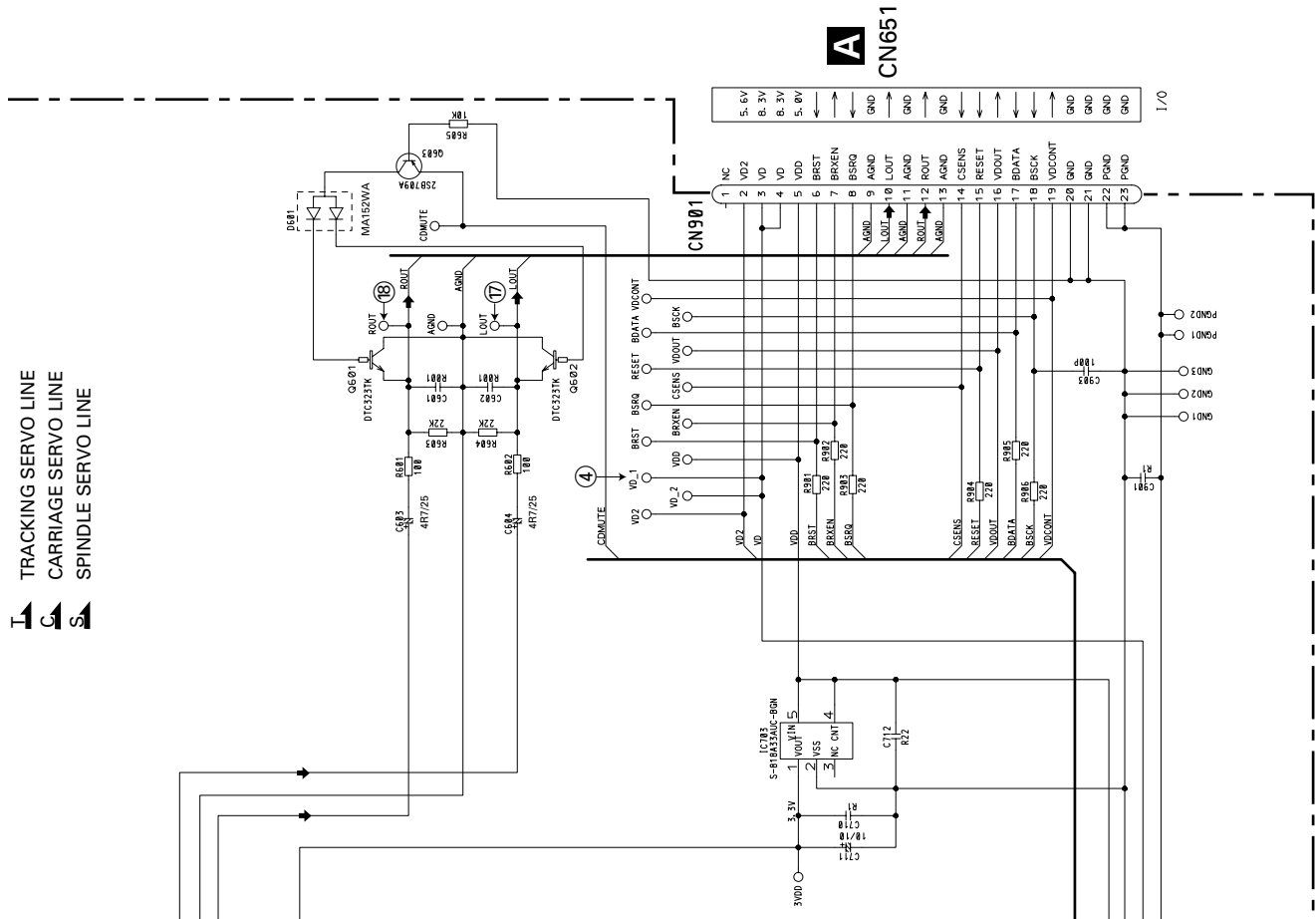
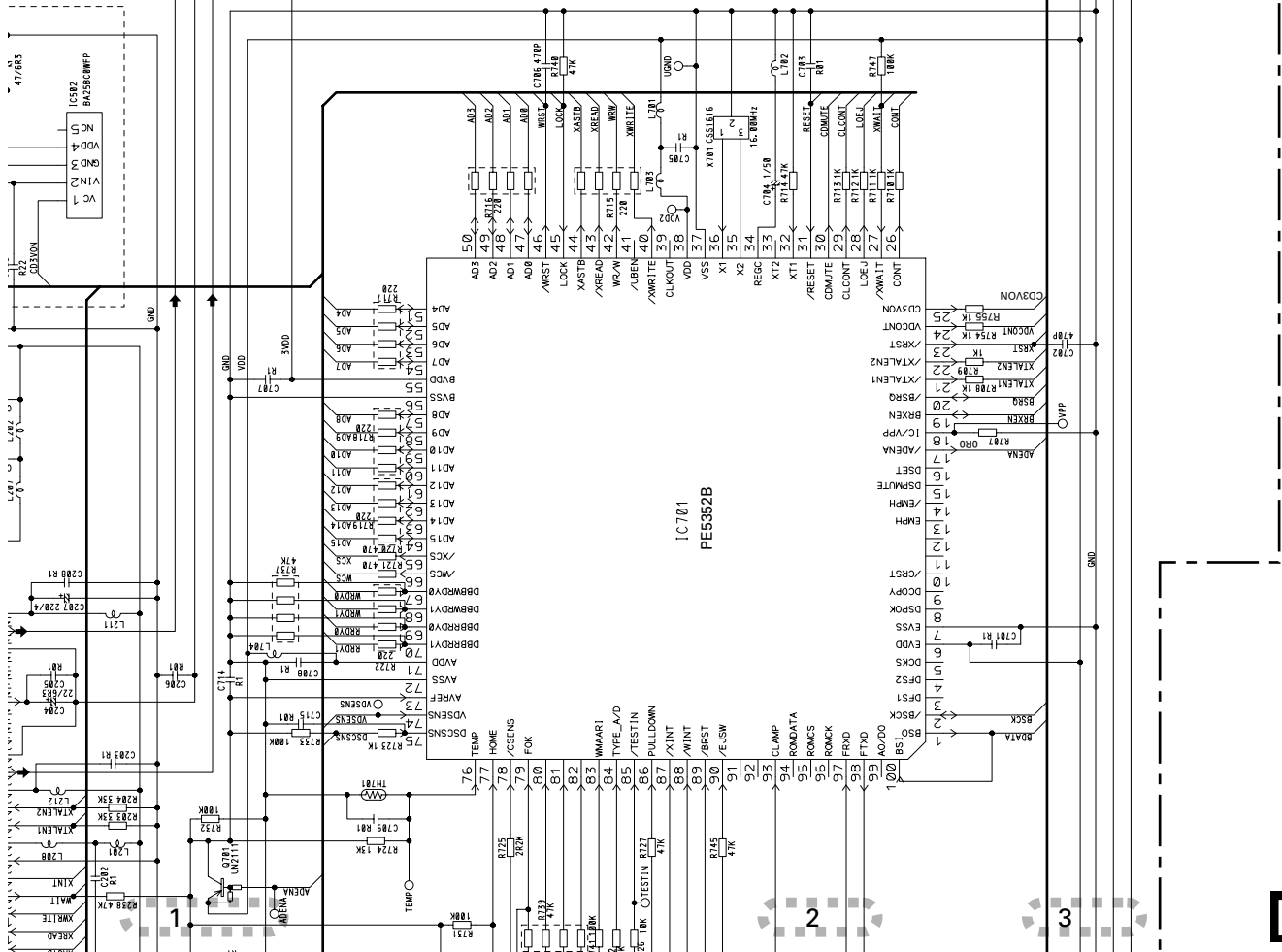
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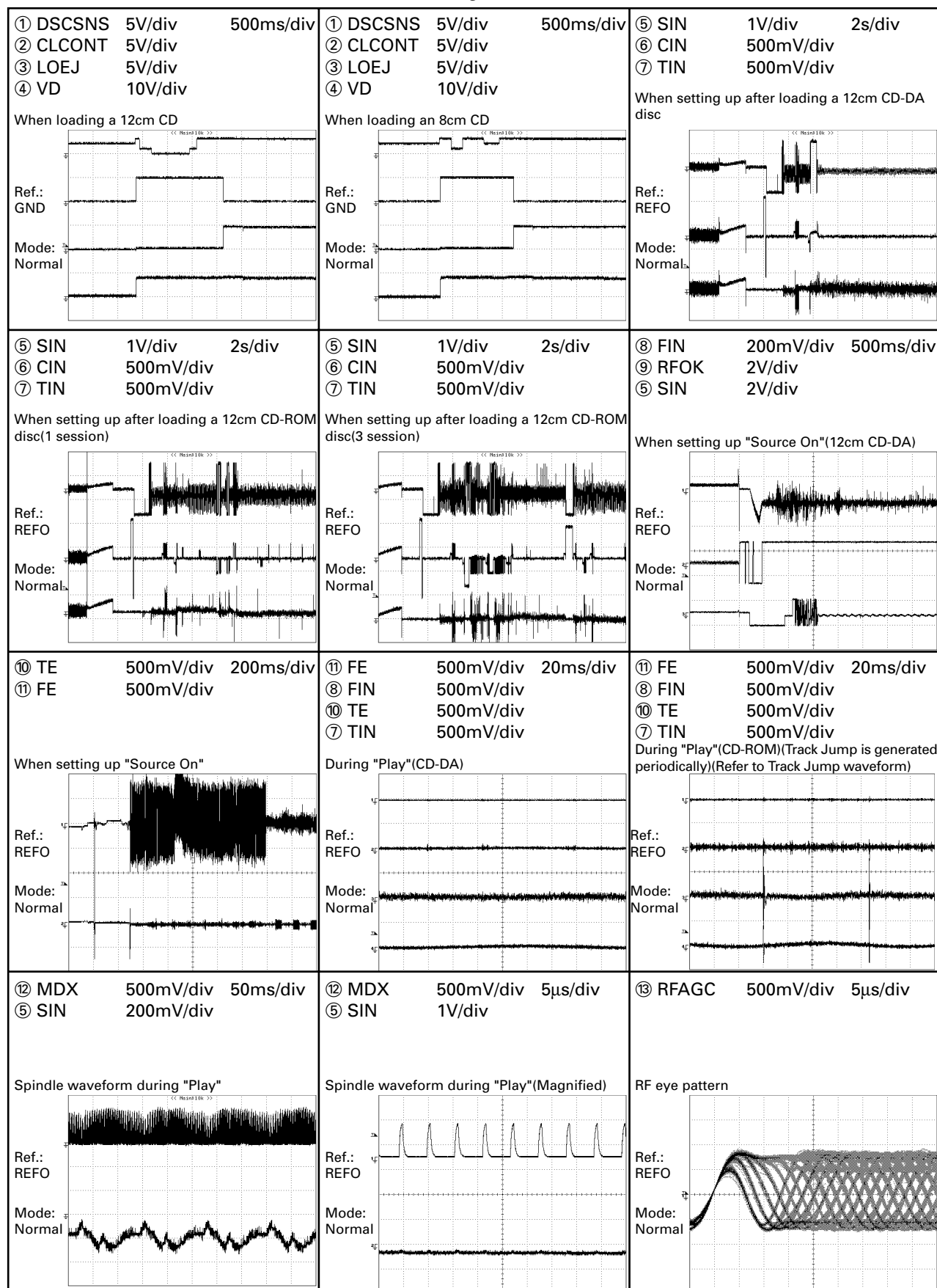
340

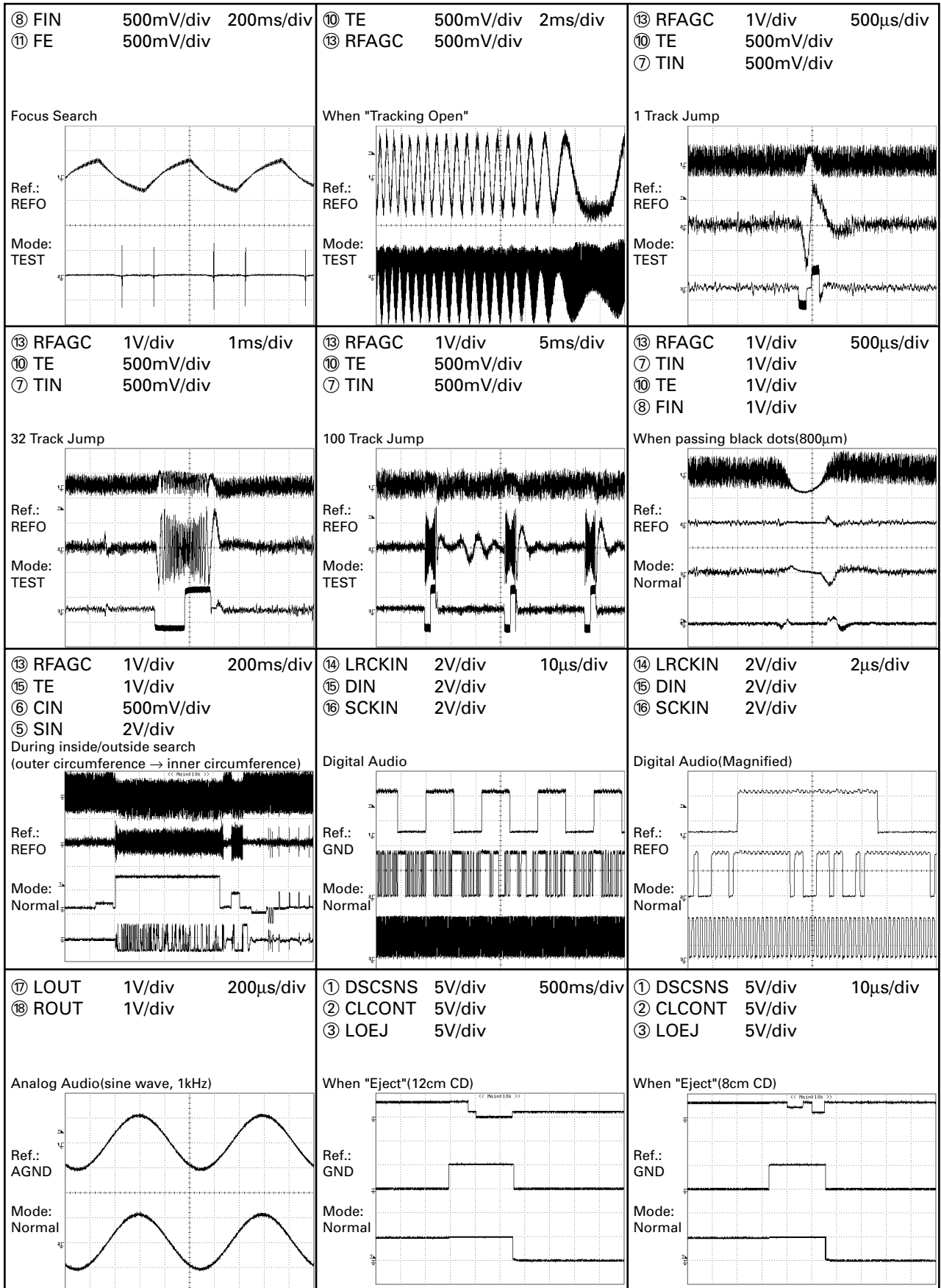
341



Waveforms

Note : 1. The encircled numbers denote measuring points in the circuit diagram.
2. Reference voltage REFO1(1.65V)

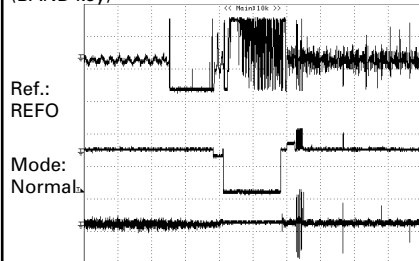




A

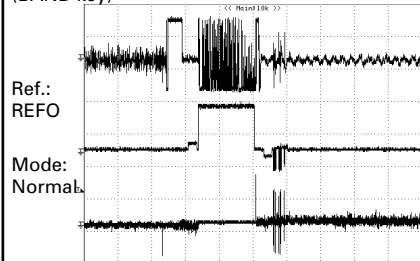
⑤ SIN 1V/div 500ms/div
⑥ CIN 500mV/div
⑦ TIN 500mV/div

When switching to CD-ROM from CD-DA
(BAND key)



⑤ SIN 1V/div 500ms/div
⑥ CIN 500mV/div
⑦ TIN 500mV/div

When switching to CD-DA from CD-ROM
(BAND key)



B

C

D

E

F



5



6



7



8



A



B



C



D



E



F



5



6



7



8



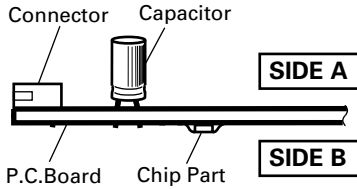
4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

- 1.The parts mounted on this PCB include all necessary parts for several destination.
- For further information for respective destinations, be sure to check with the schematic diagram.

2.Viewpoint of PCB diagrams



A TUNER AMP UNIT

IC, Q ADJ

IC301

Q921

Q911

IC901

Q923 IC131

IC101 IC201

Q301

Q931

Q401

Q651 Q951

Q982 Q402

IC602

IC631

IC601

IC652

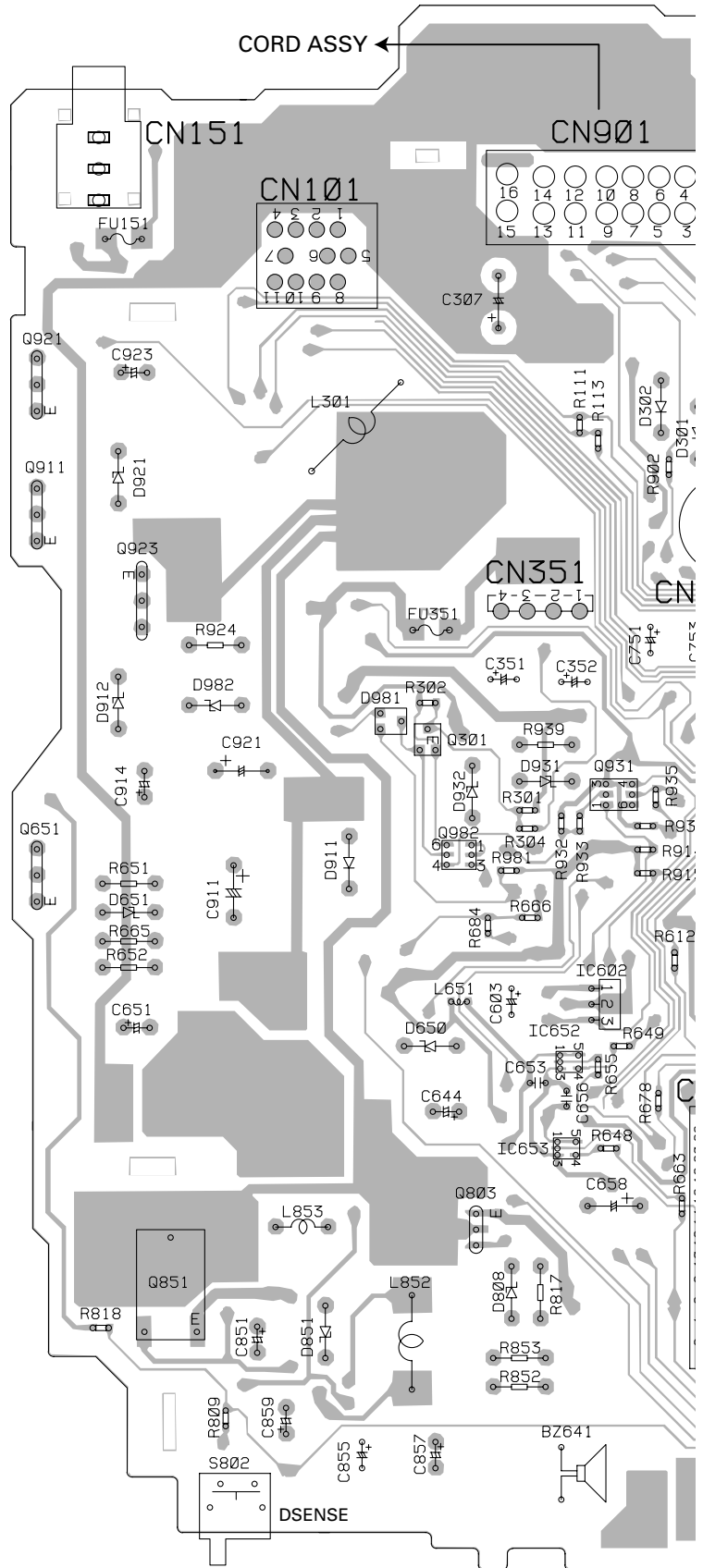
IC653

Q803

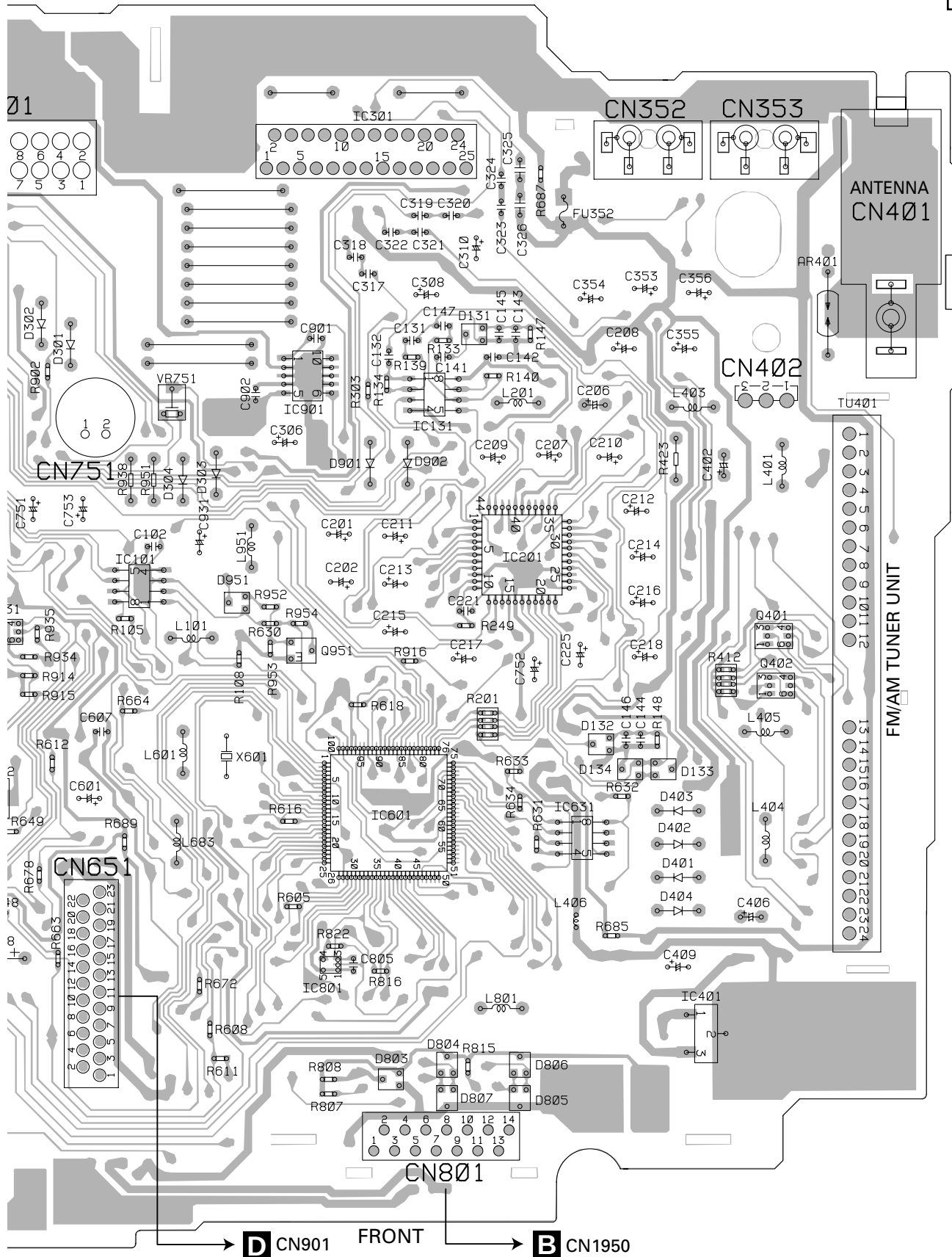
IC801

IC401

Q851



SIDE A



A

B

C

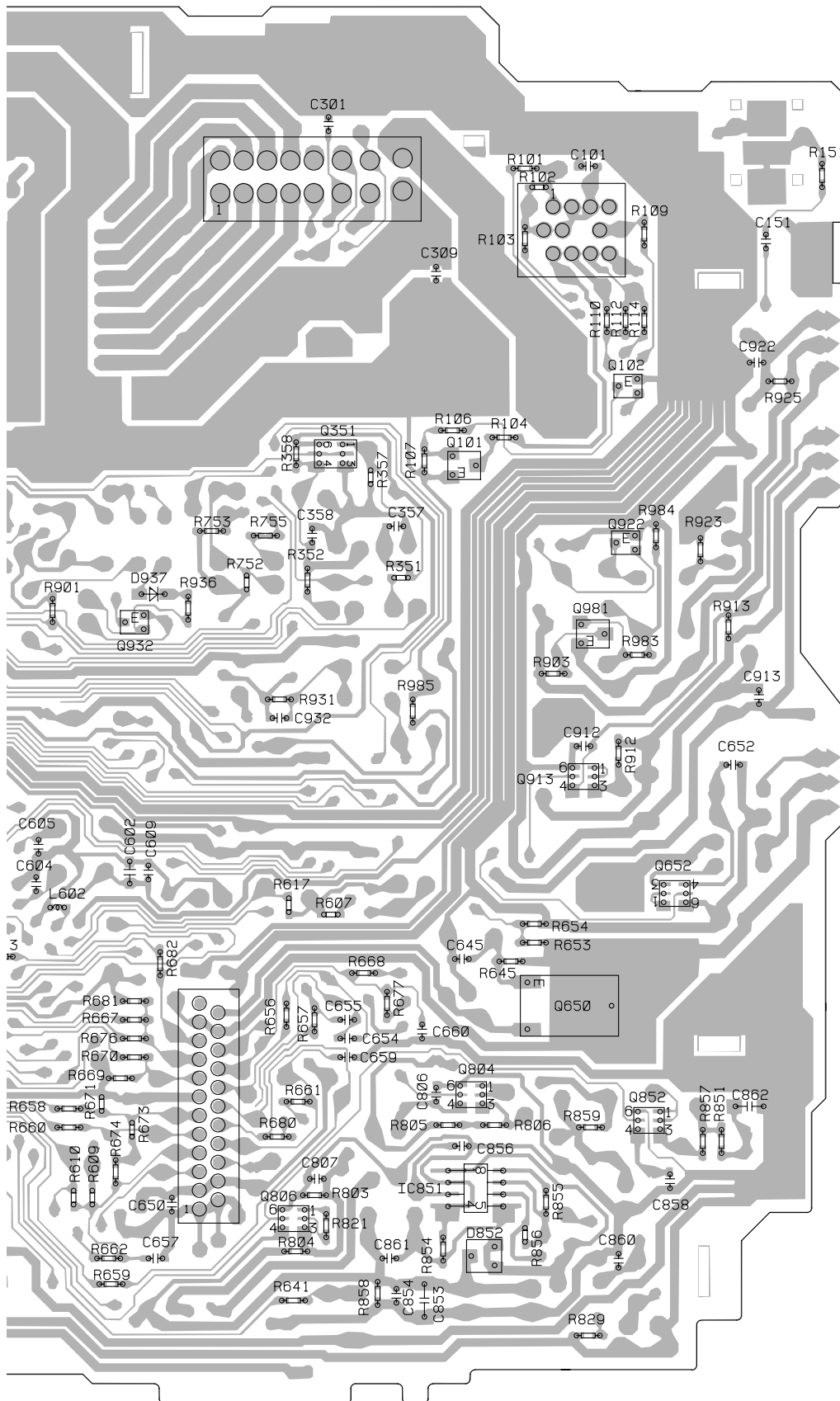
D

E

F

A

SIDE B



IC, Q

Q353

Q352

Q102

Q351

Q101

Q922

Q981

Q932

Q913

Q652

Q650

Q804

Q852

Q808

Q807

IC85:

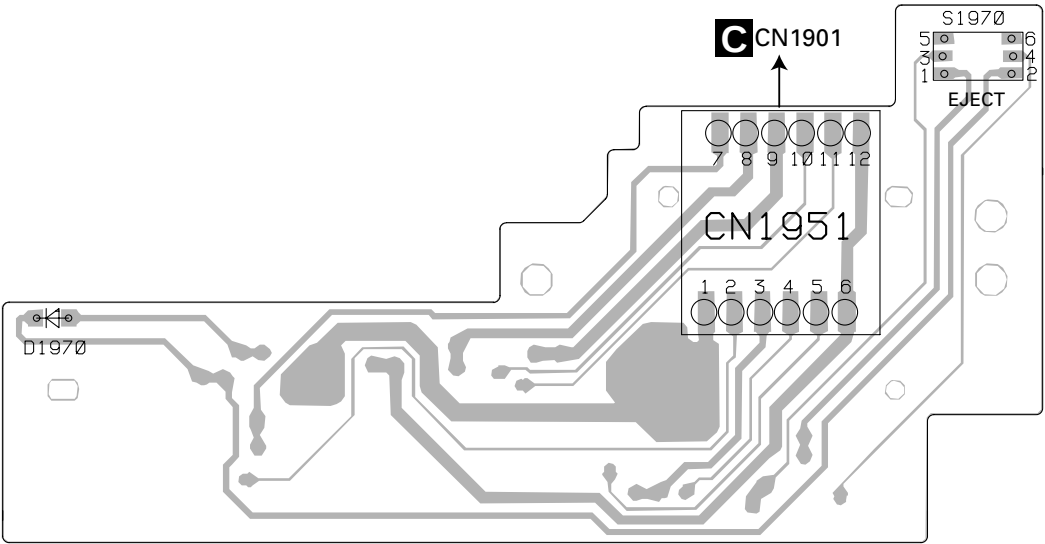
Q805

Q806

4.2 PANEL UNIT

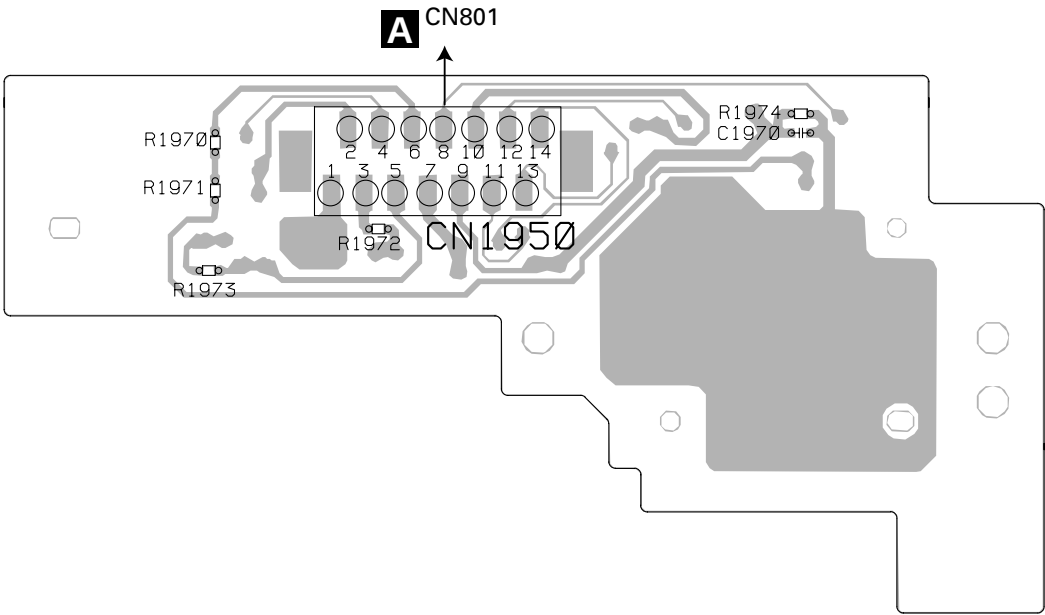
B PANEL UNIT

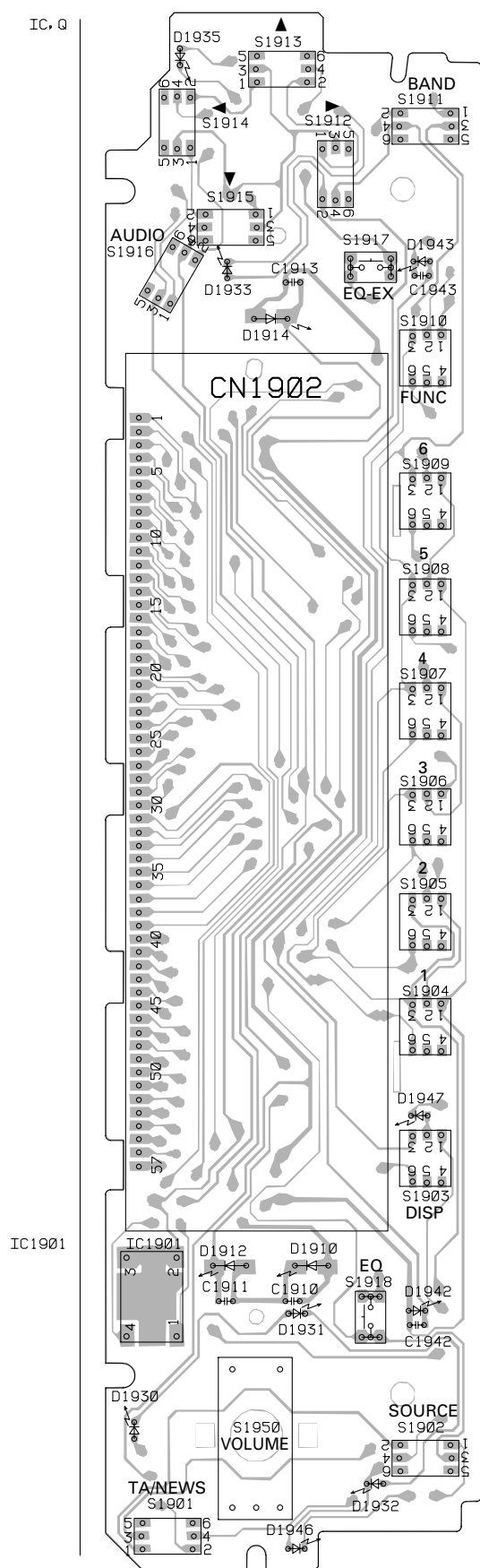
SIDE A



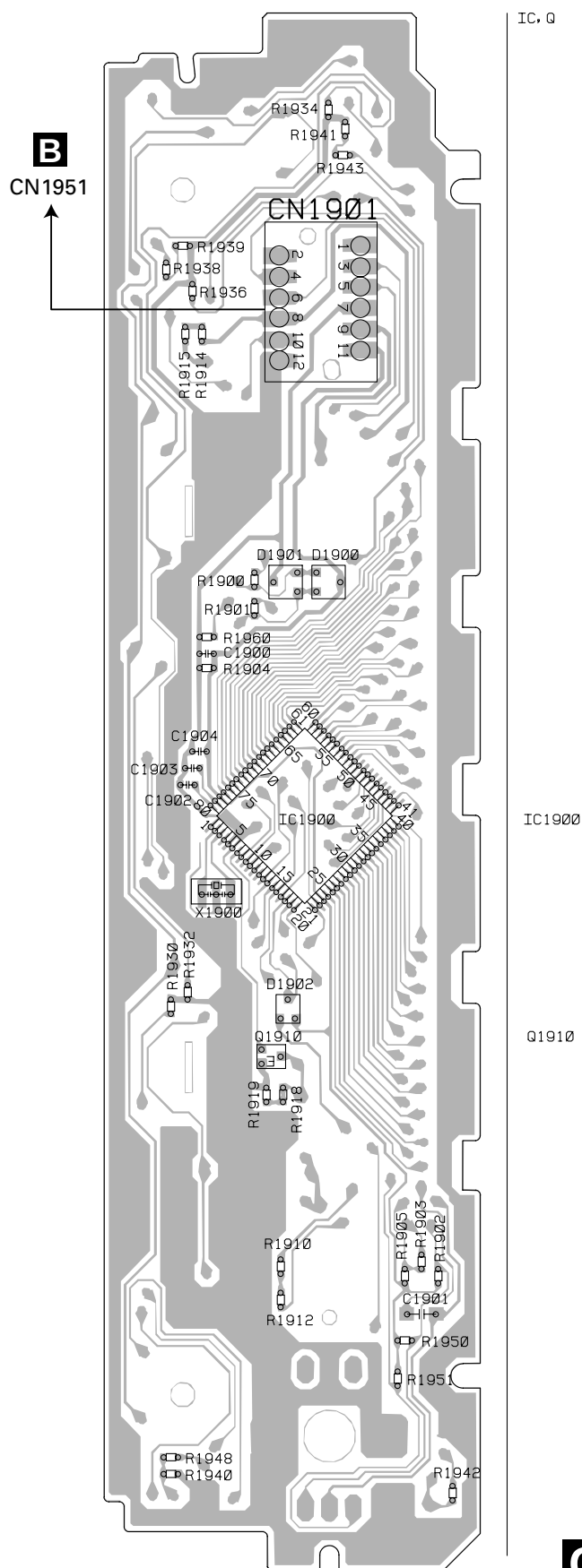
B PANEL UNIT

SIDE B



SIDE A

SIDE B



4.4 CD MECHANISM MODULE

D CD CORE UNIT(S10MP3)

SIDE A

IC, Q

IC502

M2
LOADING
/CARRIAGE MOTOR

M1
SPINDLE MOTOR

A CN651

CN901

IC701

IC703

HOME

PICKUP UNIT
(SERVICE)

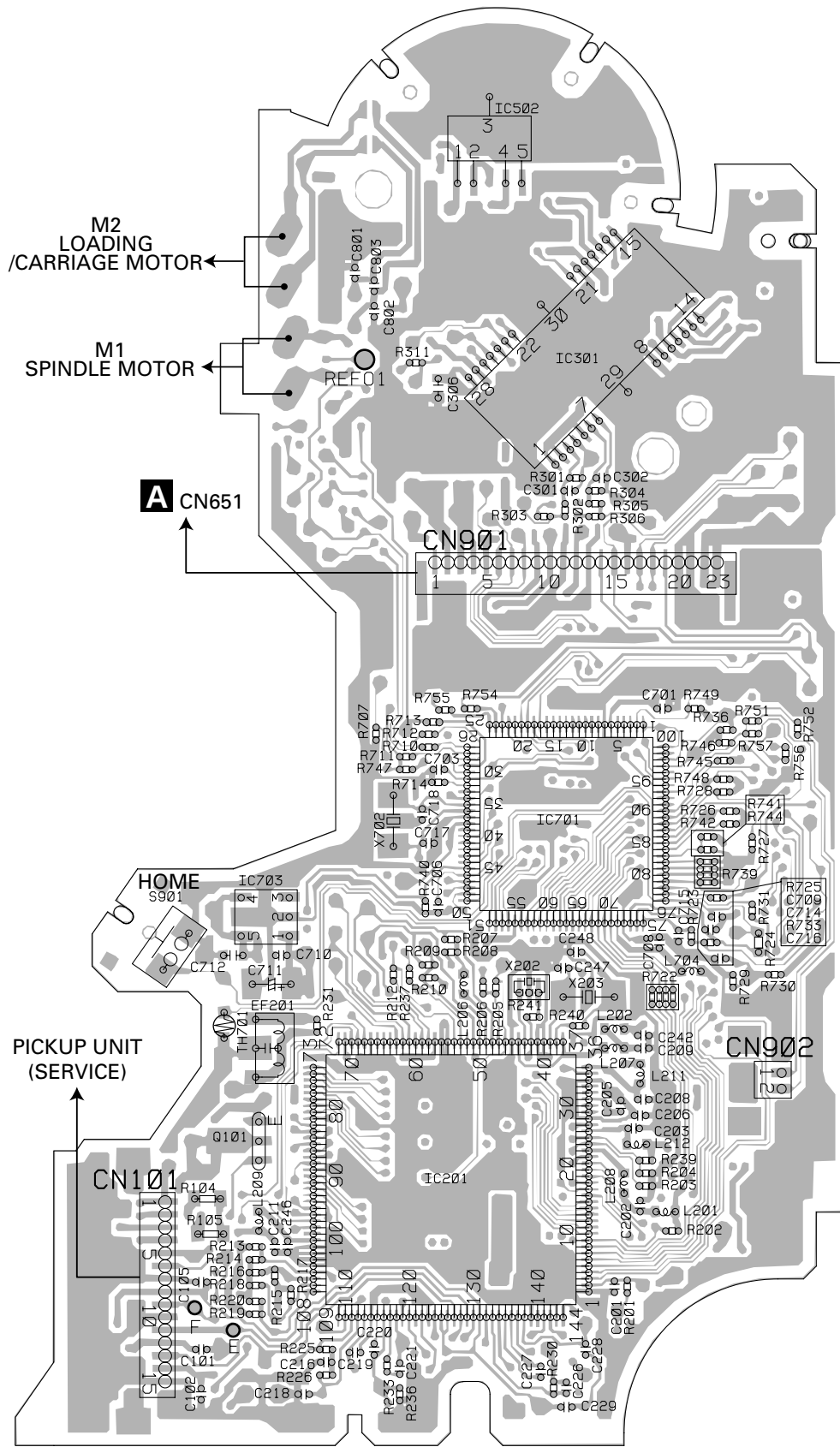
Q101

IC201

CN101

CN902

D



5. ELECTRICAL PARTS LIST

NOTES:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

Circuit Symbol and No.	Part Name	Part No.	Circuit Symbol and No.	Part Name	Part No.
A	Unit Number : CWM8587 Unit Name : Tuner Amp Unit		D 807	Diode	DAP202U
MISCELLANEOUS					
IC 101	IC	HA12187FP	D 808	Diode	HZS11L(A1)
IC 131	IC	NJM4558MD	D 911	Diode	S5688G
IC 201	IC	PML009A	D 912	Diode	HZS6L(B2)
IC 301	IC	PAL007A	D 921	Diode	HZS9L(B3)
IC 401	IC	NJM2391DL1-33			
IC 601	IC	PD5799A	D 931	Diode	HZS7L(A1)
IC 602	IC	S-80835ANUP-EDZ	D 932	Diode	HZS7L(C3)
Q 101	Transistor	2SA1037K	D 937	Diode	MA110
Q 102	Transistor	DTC114EU	D 951	Diode	DAN202U
Q 301	Transistor	DTC124EU	D 981	Diode	DAN202U
Q 352	Transistor	IMH3A	D 982	Diode	HZS9L(A2)
Q 353	Transistor	IMH3A	L 101	Inductor	LAU2R2K
Q 401	Transistor	IMH1A	L 201	Ferri-Inductor	LAU4R7K
Q 402	Transistor	IMH1A	L 301	Choke Coil 600μH	CTH1280
Q 650	Transistor	2SD1760F5	L 401	Ferri-Inductor	LAU4R7K
Q 651	Transistor	2SD2396	L 403	Inductor	LAU1R0K
Q 652	Transistor	IMD2A	L 404	Inductor	LAU1R0K
Q 803	Transistor	2SD1767	L 406	Inductor	CTF1385
Q 804	Transistor	IMD2A	L 601	Ferri-Inductor	LAU100K
Q 805	Transistor	DTC143EU	L 683	Ferri-Inductor	LAU4R7K
Q 806	Transistor	IMD14	L 801	Inductor	LAU2R2K
Q 807	Transistor	2SA1037K	L 951	Inductor	LAU2R2K
Q 808	Transistor	DTC114EU	X 601	Radiator 10.00MHz	CSS1599
Q 911	Transistor	2SD2396	S 802	Switch(DSENSE)	CSN1039
Q 913	Transistor	IMD2A	FU 151	Fuse 200mA	CEK1189
Q 921	Transistor	2SD2396		Fuse 10A	CEK1208
Q 922	Transistor	DTC114EU		FM/AM Tuner Unit	CWE1645
Q 923	Transistor	2SB1243	BZ 641	Buzzer	CPV1062
Q 931	Transistor	IMX1	AR 401	Surge Protector	DSP-201M-S00B
Q 932	Transistor	DTC114EU			
Q 951	Transistor	2SA1037K			
Q 981	Transistor	2SC2412K			
Q 982	Transistor	IMD2A			
D 131	Diode Network	DA204U			
D 132	Diode Network	DA204U			
D 133	Diode	DAN202U			
D 134	Diode	DAP202U			
D 301	Diode	S5688G			
D 302	Diode	S5688G			
D 303	Diode	S5688G			
D 304	Diode	S5688G			
D 401	Diode	S5688G			
D 402	Diode	S5688G			
D 403	Diode	S5688G			
D 650	Diode	HZS6L(C1)			
D 651	Diode	HZS9L(B1)			
D 803	Diode Network	DA204U			
D 804	Diode	DAN202U			
D 805	Diode	DAP202U			
D 806	Diode	DAN202U			

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.	
R 151	RS1/16S102J	R 689	RS1/16S0R0J	A
R 201	RAB4C102J	R 802	RS1/16S222J	
R 241	RS1/16S102J	R 803	RS1/16S472J	
R 242	RS1/16S102J	R 804	RS1/16S1R0J	
R 247	RS1/16S101J	R 805	RS1/16S391J	
R 248	RS1/16S101J	R 806	RS1/16S391J	B
R 249	RS1/16S101J	R 807	RS1/16S473J	
R 250	RS1/16S101J	R 808	RS1/16S473J	
R 301	RS1/16S103J	R 809	RS1/16S102J	
R 302	RS1/16S103J	R 810	RS1/16S222J	
R 303	RS1/16S153J	R 811	RS1/16S222J	B
R 304	RS1/16S331J	R 812	RS1/16S222J	
R 353	RS1/16S821J	R 813	RS1/16S222J	
R 354	RS1/16S821J	R 814	RS1/16S222J	
R 355	RS1/16S821J	R 815	RS1/16S473J	
R 356	RS1/16S821J	R 816	RS1/16S104J	C
R 359	RS1/16S223J	R 817	RD1/4PU391J	
R 360	RS1/16S223J	R 818	RS1/16S104J	
R 361	RS1/16S223J	R 819	RS1/16S222J	
R 362	RS1/16S223J	R 820	RS1/16S222J	
R 403	RS1/16S681J	R 821	RS1/16S472J	D
R 404	RS1/16S0R0J	R 822	RS1/16S0R0J	
R 405	RS1/16S681J	R 823	RS1/16S102J	
R 406	RS1/16S681J	R 824	RS1/16S473J	
R 407	RS1/16S681J	R 825	RS1/16S102J	
R 408	RS1/16S681J	R 826	RS1/16S102J	C
R 409	RS1/16S681J	R 827	RS1/16S102J	
R 410	RS1/16S681J	R 828	RS1/16S102J	
R 412	RAB4C223J	R 903	RS1/16S223J	
R 413	RS1/16S0R0J	R 912	RS1/16S222J	
R 416	RS1/16S681J	R 913	RS1/16S223J	E
R 417	RS1/16S681J	R 914	RS1/16S104J	
R 419	RS1/16S681J	R 915	RS1/16S104J	
R 421	RS1/16S681J	R 916	RS1/16S104J	
R 423	RD1/4PU0R0J	R 923	RS1/16S103J	
R 605	RS1/16S0R0J	R 924	RD1/4PU122J	D
R 606	RS1/16S104J	R 925	RS1/16S182J	
R 607	RS1/16S822J	R 931	RS1/16S472J	
R 608	RS1/16S221J	R 932	RS1/16S473J	
R 609	RS1/16S221J	R 933	RS1/16S103J	
R 610	RS1/16S682J	R 934	RS1/16S473J	F
R 611	RS1/16S682J	R 935	RS1/16S104J	
R 612	RS1/16S104J	R 936	RS1/16S103J	
R 613	RS1/16S102J	R 938	RD1/4PU102J	
R 616	RS1/16S473J	R 939	RD1/4PU102J	
R 617	RS1/16S102J	R 951	RD1/4PU153J	G
R 618	RS1/16S104J	R 952	RS1/16S472J	
R 630	RS1/16S104J	R 953	RS1/16S472J	
R 632	RS1/16S104J	R 954	RS1/16S102J	
R 641	RS1/16S102J	R 983	RS1/16S223J	
R 645	RS1/16S271J	R 984	RS1/16S473J	E
R 651	RD1/4PU221J	R 985	RS1/16S102J	
R 652	RD1/4PU221J	CAPACITORS		
R 656	RS1/16S102J	C 101	CKSRYB104K16	
R 657	RS1/16S102J	C 102	CKSRYB473K25	
R 665	RD1/4PU0R0J	C 131	CKSRYB104K16	H
R 666	RS1/16S0R0J	C 132	CKSRYB104K16	
R 669	RS1/16S0R0J	C 141	CKSRYB104K16	
R 671	RS1/16S0R0J	C 142	CKSRYB103K50	
R 672	RS1/16S0R0J	C 143	CKSRYB474K10	
R 676	RS1/16S102J	C 144	CKSRYB474K10	I
R 677	RS1/16S104J	C 145	CCSRCH101J50	
R 678	RS1/16S102J	C 146	CCSRCH101J50	
R 680	RS1/16S222J			
R 681	RS1/16S104J			

A	====Circuit Symbol and No.====Part Name		Part No.	====Circuit Symbol and No.====Part Name		Part No.
	---	-----	-----	---	-----	-----
	C	147	CKSRYB104K16	C	645	CKSRYB473K25
	C	151	CKSRYB104K16	C	646	CCSRCH470J50
	C	201	CEJQ1R0M50	C	651	CEJQ101M10
	C	202	CEJQ1R0M50	C	652	CKSRYB473K25
	C	203	CKSRYB104K16	C	654	CKSRYB152K50
	C	204	CKSRYB104K16	C	655	CKSRYB152K50
	C	205	CKSRYB104K16	C	657	CCSRCH470J50
	C	206	CEJQ470M16	C	658	CCH1183
	C	207	CEJQ1R0M50	C	662	CCSRCH471J50
	C	208	CEJQ1R0M50	C	755	CKSRYB104K16
B	C	209	CEJQ1R0M50	C	806	CKSRYB473K25
	C	210	CEJQ1R0M50	C	807	CKSRYB473K25
	C	211	CEJQ4R7M35	C	811	CKSQYB105K16
	C	212	CEJQ4R7M35	C	854	CKSRYB473K25
	C	213	CEJQ4R7M35	C	911	CCH1331
	C	214	CEJQ4R7M35	C	912	CKSRYB472K50
	C	215	CEJQ4R7M35	C	913	CKSRYB103K50
	C	216	CEJQ4R7M35	C	914	CEJQ470M10
	C	217	CEJQ4R7M35	C	921	CEJQ221M10
	C	218	CEJQ4R7M35	C	922	CKSRYB103K50
	C	219	CCSRCH120J50	C	923	CEJQ101M16
	C	220	CCSRCH120J50	C	931	CEJQ1R0M50
	C	221	CCSRCH120J50			
	C	222	CCSRCH120J50			
	C	225	CEJQ100M16			
C	C	241	CKSRYB152K50	 Unit Number : CWM8796(DEH-P5530MP/XN/EW) Unit Name : Keyboard Unit		
	C	242	CKSRYB152K50			
	C	301	CKSRYB104K16	MISCELLANEOUS		
	C	306	CEJQ330M10			
	C	307	CCH1486			
	C	309	CKSRYB104K16	IC	1900	IC
	C	310	CEJQ100M16	IC	1901	HIC Module
	C	311	CKSYB475K16	Q	1910	Transistor
	C	312	CKSYB475K16	D	1902	Diode Network
	C	317	CKSRYB474K10	D	1910	LED
	C	318	CKSRYB474K10	D	1912	LED
	C	319	CKSRYB474K10	D	1914	LED
	C	320	CKSRYB474K10	D	1930	LED
	C	321	CKSRYB474K10	D	1931	LED
	C	322	CKSRYB474K10	D	1932	LED
D	C	323	CKSRYB474K10	D	1935	LED
	C	324	CKSRYB474K10	D	1942	LED
	C	325	CKSQYB225K10	D	1943	LED
	C	326	CKSQYB225K10	D	1947	LED
	C	353	CEJQ4R7M35	X	1900	Ceramic Resonator 5.00MHz
	C	354	CEJQ4R7M35	S	1901	Push Switch
	C	355	CEJQ4R7M35	S	1902	Push Switch
	C	356	CEJQ4R7M35	S	1903	Push Switch
	C	401	CKSRYB103K50	S	1904	Push Switch
	C	402	CEJQ101M10	S	1905	Push Switch
	C	403	CKSQYB105K16	S	1906	Push Switch
	C	404	CKSYB475K10	S	1907	Push Switch
	C	406	CEJQ470M10	S	1908	Push Switch
	C	408	CKSYB475K10	S	1909	Push Switch
	C	409	CEJQ1R0M50	S	1910	Push Switch
E	C	411	CCSRCH101J50	S	1911	Push Switch
	C	412	CCSRCH470J50	S	1912	Push Switch
	C	415	CCSRCH101J50	S	1913	Push Switch
	C	601	CEJQ4R7M35	S	1914	Push Switch
	C	602	CKSQYB105K16	S	1915	Push Switch
	C	603	CEJQ2R2M50	S	1916	Push Switch
	C	604	CCSRCH200J50	S	1917	Push Switch
	C	605	CCSRCH200J50	S	1918	Push Switch
	C	609	CCSRCH101J50	S	1950	Encoder
	C	644	CEJQ101M10			LCD
F						CSG1135
						CSG1135
						CSG1133
						CSG1133
						CSG1133
						CSG1135
						CSG1164
						CSG1135
						CSG1164
						CSG1135
						CSG1135
						CSG1111
						CSG1111
						CSD1059
						CAW1752

====Circuit Symbol and No.==Part Name

Part No.

RESISTORS

R 1900	RS1/16S222J
R 1901	RS1/16S222J
R 1902	RS1/16S121J
R 1903	RS1/16S2R2J
R 1910	RS1/16S101J
R 1912	RS1/16S680J
R 1914	RS1/16S181J
R 1915	RS1/16S181J
R 1919	RS1/16S101J
R 1930	RS1/16S101J
R 1932	RS1/16S101J
R 1934	RS1/16S101J
R 1936	RS1/16S101J
R 1938	RS1/16S330J
R 1939	RS1/16S680J
R 1940	RS1/16S560J
R 1941	RS1/16S181J
R 1942	RS1/16S820J
R 1943	RS1/16S181J
R 1948	RS1/16S820J
R 1950	RS1/16S472J
R 1960	RS1/16S473J

CAPACITORS

C 1900	CKSRYB104K16
C 1901	CKSYF106Z10
C 1902	CKSRYB104K16
C 1903	CKSRYB104K16
C 1904	CKSRYB104K16
C 1910	CKSRYF104Z25
C 1911	CKSRYF104Z25
C 1913	CKSRYF104Z25
C 1942	CKSRYF104Z25
C 1943	CKSRYF104Z25

C Unit Number : CWM8602(DEH-P5500MP/XN/EW)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC 1900	IC	PD6294A
IC 1901	HIC Module	RS-140
Q 1910	Transistor	DTC114EU
D 1902	Diode Network	DA204U
D 1910	LED	NSSW440-9159
D 1912	LED	NSSW440-9159
D 1914	LED	NSSW440-9159
D 1930	LED	CL-195PG-CD
D 1931	LED	CL-195PG-CD
D 1932	LED	CL-195PG-CD
D 1935	LED	CL-195PG-CD
D 1942	LED	CL190UBX
D 1943	LED	CL190UBX
D 1946	LED	CL-195PG-CD
D 1947	LED	CL-195PG-CD
X 1900	Ceramic Resonator 5.00MHz	CSS1547
S 1901	Push Switch	CSG1112
S 1902	Push Switch	CSG1112
S 1903	Switch	CSG1107
S 1904	Switch	CSG1107
S 1905	Switch	CSG1107
S 1906	Switch	CSG1107
S 1907	Switch	CSG1107
S 1908	Switch	CSG1107
S 1909	Switch	CSG1107

====Circuit Symbol and No.==Part Name

Part No.

S 1910	Switch
S 1911	Push Switch
S 1912	Push Switch
S 1913	Push Switch
S 1914	Push Switch
S 1915	Push Switch
S 1916	Push Switch
S 1917	Push Switch
S 1918	Push Switch
S 1950	Encoder

LCD

CSG1107
CSG1112
CSG1160
CSG1112
CSG1112
CSG1111
CSG1111
CSD1059

CAW1752

RESISTORS

R 1900	RS1/16S222J
R 1901	RS1/16S222J
R 1902	RS1/16S121J
R 1903	RS1/16S2R2J
R 1910	RS1/16S101J
R 1912	RS1/16S680J
R 1914	RS1/16S181J
R 1915	RS1/16S181J
R 1919	RS1/16S101J
R 1930	RS1/16S560J
R 1932	RS1/16S560J
R 1934	RS1/16S560J
R 1936	RS1/16S560J
R 1938	RS1/16S330J
R 1939	RS1/16S680J
R 1940	RS1/16S560J
R 1941	RS1/16S151J
R 1942	RS1/16S0R0J
R 1943	RS1/16S151J
R 1950	RS1/16S472J

CAPACITORS

C 1900	CKSRYB104K16
C 1901	CKSYF106Z10
C 1902	CKSRYB104K16
C 1903	CKSRYB104K16
C 1904	CKSRYB104K16
C 1910	CKSRYF104Z25
C 1911	CKSRYF104Z25
C 1913	CKSRYF104Z25
C 1942	CKSRYF104Z25
C 1943	CKSRYF104Z25

B Unit Number : CWM8758
Unit Name : Panel Unit

MISCELLANEOUS

D 1970	LED	CL220PGC
S 1970	Push Switch(EJECT)	CSG1112

RESISTORS

R 1970	RS1/16S101J
R 1971	RS1/16S101J
R 1972	RS1/16S0R0J

CAPACITORS

C 1970	CKSRYB104K16
--------	--------------

A

====Circuit Symbol and No.==Part Name

Part No.

====Circuit Symbol and No.==Part Name

Part No.

D Unit Number : CWX2743
Unit Name : CD Core Unit(S10MP3)

MISCELLANEOUS

IC 201 IC UPD63760GJ
IC 202 IC MSM51V4265EP-70TS
IC 203 IC BA033SFP
IC 301 IC BA5996FM
IC 501 IC UPD61002GC

R 215
R 216
R 217
R 218
R 219

RS1/16SS6801D
RS1/16SS6801D
RS1/16SS1002D
RS1/16SS1002D
RS1/16SS1002D

IC 502 IC BA25BC0WFP
IC 701 IC PE5352B
IC 702 IC TC74VHCT08AFT
IC 703 IC S-818A33AUC-BGN
Q 101 Transistor 2SB1132

R 220
R 221
R 222
R 223
R 224

RS1/16SS1002D
RS1/16SS103J
RS1/16SS103J
RS1/16SS103J
RS1/16SS103J

Q 601 Transistor DTC323TK
Q 602 Transistor DTC323TK
Q 603 Transistor 2SB709A
Q 701 Transistor UN2111
D 101 Diode 1SS355

R 225
R 226
R 227
R 228
R 229

RS1/16SS103J
RS1/16SS393J
RS1/16SS103J
RS1/16SS182J
RS1/16SS103J

D 201 Diode 1SR154-400
D 501 Diode 1SR154-400
D 601 Diode MA152WA
L 201 Inductor CTF1386
L 202 Inductor CTF1386

R 231
R 232
R 233
R 237
R 238

RS1/16SS0R0J
RS1/16SS182J
RS1/16SS0R0J
RS1/16SS104J
RS1/16SS473J

L 204 Inductor CTF1386
L 205 Inductor CTF1386
L 206 Inductor CTF1386
L 207 Inductor CTF1386
L 208 Inductor CTF1386

R 240
R 241
R 301
R 302
R 303

RS1/16SS0R0J
RS1/16SS221J
RS1/16SS183J
RS1/16SS822J
RS1/16SS0R0J

L 209 Inductor CTF1386
L 211 Inductor CTF1386
L 212 Inductor CTF1386
L 501 Inductor CTF1386
L 502 Inductor CTF1386

R 304
R 305
R 306
R 307
R 308

RS1/16SS183J
RS1/16SS822J
RS1/16SS0R0J
RS1/16SS183J
RS1/16SS822J

L 503 Inductor CTF1386
L 701 Inductor CTF1386
L 702 Inductor LCYBR22J1608
L 703 Inductor CTF1386
L 704 Inductor CTF1386

R 309
R 310
R 311
R 501
R 502

RS1/16SS183J
RS1/16SS822J
RS1/16SS0R0J
RS1/16SS221J
RS1/16SS221J

D

TH 701 Thermistor CCX1037
X 201 Ceramic Resonator 16.934MHz CSS1603
X 202 Ceramic Resonator 24.57MHz CSS1615
X 701 Ceramic Resonator 16.00MHz CSS1616
S 901 Switch(HOME) CSN1051

R 503
R 504
R 505
R 506
R 507

RS1/16SS221J
RAB4CQ223J
RAB4CQ223J
RAB4CQ223J
RS1/16SS223J

S 902 Switch(CLAMP) CSN1051
S 903 Spring Switch(DSCSNS) CSN1052
S 904 Switch(12EJ) CSN1051
S 905 Switch(8EJ) CSN1051

R 508
R 509
R 510
R 511
R 512

RS1/16SS223J
RS1/16SS102J
RS1/16SS223J
RS1/16SS223J
RS1/16SS223J

RESISTORS

R 101 RS1/10S1R5J
R 102 RS1/10S1R5J
R 103 RS1/10S1R5J
R 104 RS1/10S1R5J
R 105 RS1/10S1R5J

R 601
R 602
R 603
R 604
R 605

RS1/16S101J
RS1/16S101J
RS1/16S223J
RS1/16S223J
RS1/16SS103J

R 201 RS1/16SS102J
R 202 RS1/16SS333J
R 203 RS1/16SS333J
R 204 RS1/16SS333J
R 206 RS1/16SS0R0J

R 707
R 708
R 709
R 710
R 711

RS1/16SS0R0J
RS1/16SS102J
RS1/16SS102J
RS1/16SS102J
RS1/16SS102J

R 208 RS1/16SS0R0J
R 210 RS1/16SS0R0J
R 212 RS1/16SS221J
R 213 RS1/16SS1002D
R 214 RS1/16SS1002D

R 712
R 713
R 714
R 715
R 716

RS1/16SS102J
RS1/16SS102J
RS1/16SS473J
RAB4CQ221J
RAB4CQ221J

R 717
R 718
R 719
R 720
R 721

RAB4CQ221J
RAB4CQ221J
RAB4CQ221J
RS1/16SS471J
RS1/16SS471J

F

A

B

C

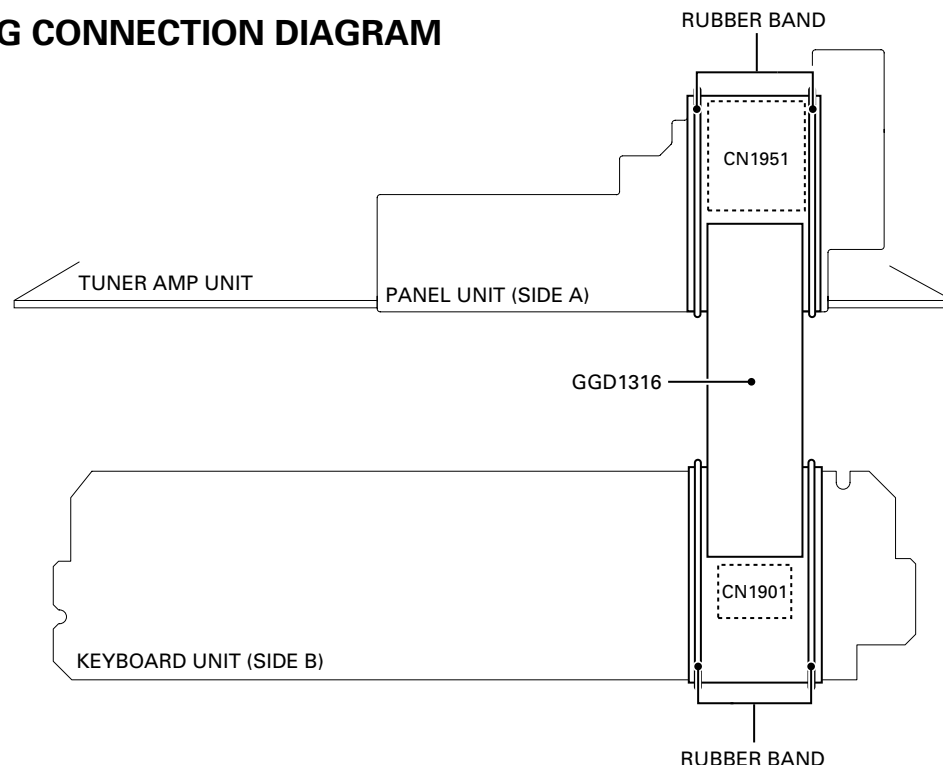
D

E

F

6. ADJUSTMENT

6.1 JIG CONNECTION DIAGRAM



6.2 CD ADJUSTMENT

1) Cautions on adjustments

- In this product the single voltage (3.3V) is used for the regulator. The reference voltage is the REFO1 (1.65V) instead of the GND.

If you should mistakenly short the REFO1 with the GND during adjustment, accurate voltage will not be obtained, and the servo's misoperation will apply excessive shock to the pickup. To avoid such problems:

- a. Do not mix up the REFO1 with the GND when connecting the (-) probe of measuring instruments. Especially on an oscilloscope, avoid connecting the (-) probe for CH1 to the GND.

- b. In many cases, measuring instruments have the same potential as that for the (-) probe. Be sure to set the measuring instruments to the floating state.

- c. If you have mistakenly connected the REFO1 to the GND, turn off the regulator or the power immediately.

- Before mounting and removing filters or leads for adjustment, be sure to turn off the regulator.

- For stable circuit operation, keep the mechanism operating for about one minute or more after the regulator is turned on.

- In the test mode, any software protections will not work. Avoid applying any mechanical or electrical shock to the mechanism during adjustment.

- The RFI and RFO signals with a wide frequency range are easy to oscillate. When observing the signals, insert a resistor of 1k ohms in series.

- The load and eject operation is not guaranteed with the mechanism upside down. If the mechanism is blocked due to mistaken eject operation, reset the product or turn off and on the ACC to restore it.

2) Test mode

This mode is used to adjust the CD mechanism module.

- To enter the test mode.

While pressing the 4 and 6 keys at the same time, reset.

- To exit from the test mode.

Turn off the ACC and back up.

Notes:

- a. During ejection, do not press any other keys than the EJECT key until the loaded disc is ejected.

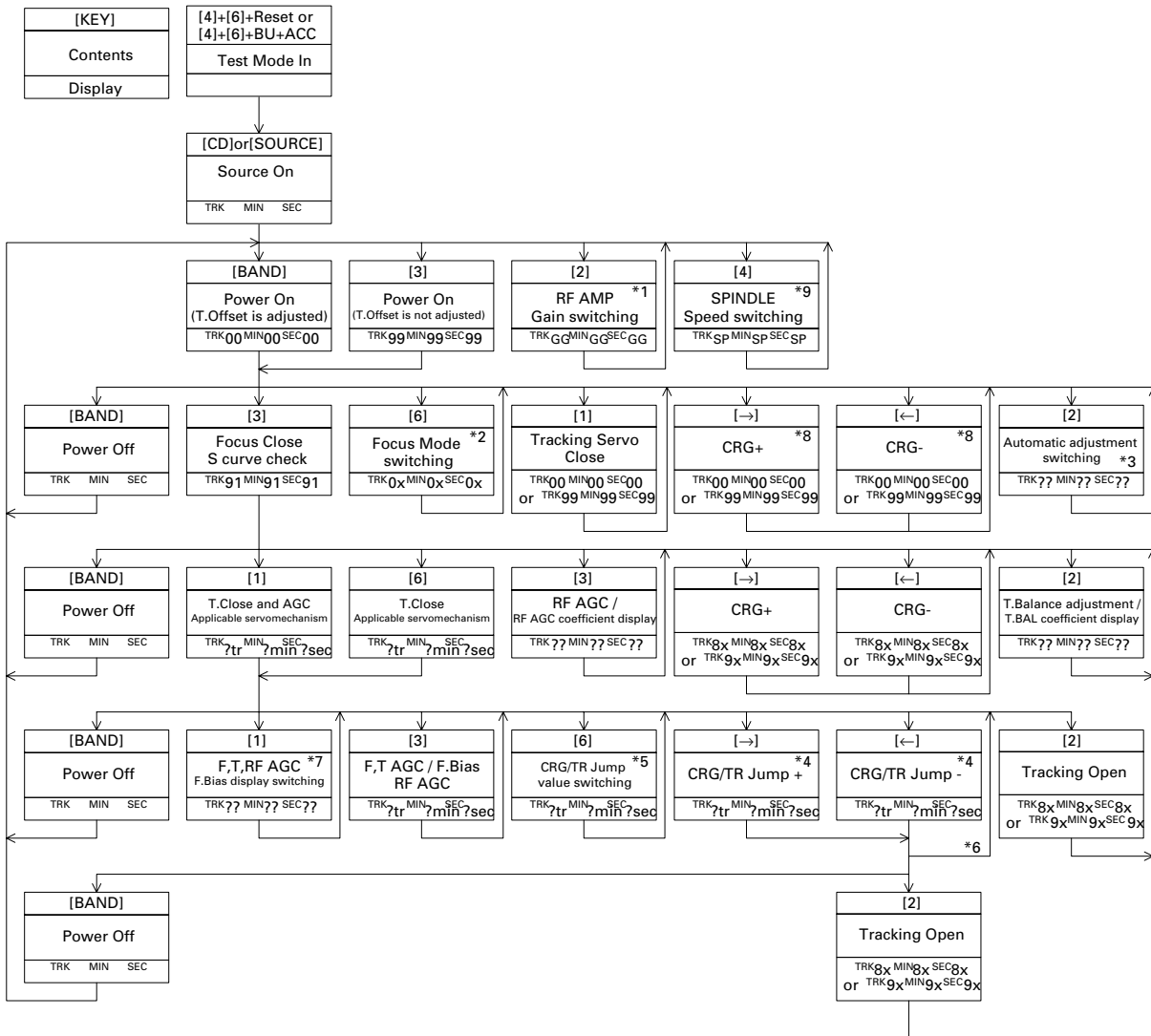
- b. If you have pressed the (→) key or (←) key during focus search, turn off the power immediately to protect the actuator from damage caused by the lens stuck.

- c. For the TR jump modes except 100TR, the track jump operation will continue even if the key is released.

- d. For the CRG move and 100TR jump modes, the tracking loop will be closed at the same time when the key is released.

- e. When the power is turned off and on, the jump mode is reset to the single TR (91), the RF amp gain is set to 0dB, and the auto-adjustment values are reset to the default settings.

Flow Chart



- *1) TYP → -6dB → -12dB
TRK MIN SEC → TRK 06 MIN 06 SEC 06 → TRK 12 MIN 12 SEC 12
- *2) Focus Close → S.Curve check setting → F.EQ measurement setting
TRK 00 MIN 00 SEC 00 → TRK 01 MIN 01 SEC 01 → TRK 02 MIN 02 SEC 02
(TRK 99 MIN 99 SEC 99)
- *3) F.Offset Display → T.Offset Display → Switch to the order of the original display
- *4) 1TR / 32TR / 100TR
- *5) Single TR → 32TR → 100TR → CRG Move
9x(8x) : 91(81) 92(82) 93(83) 94(84)
- *6) Only at the time of CRG move, 100TR jump
- *7) TRK/MIN/SEC → F.AGC → T.AGC → F Bias → RF AGC
- *8) CRG motor voltage = 2[V]
- *9) Applicability : A, B, C, D, E, F
TYP(1X) → 2X → 1X
TRK MIN SEC → TRK 22 MIN 22 SEC 22 → TRK 11 MIN 11 SEC 11

As for the double speed (2x), audio output cannot be supported

[Key]	Operation
	Test Mode
[BAND]	Power On / Off
[→]	CRG + / TR Jump + (Direction of the external surface)
[←]	CRG - / TR Jump - (Direction of the internal surface)
[1]	U.CLS and AGC and Applicable servomechanism / AGC, AGC display setting
[2]	RF Gain switching / Offset adjustment display / T.Balance adjustment / T.Open
[3]	Close, S.Curve / Rough Servo and RF AGC / F, T, RF AGC
[4]	SPDL 1X / 2X switching As for the double speed (2x), audio output cannot be supported.
[5]	Error Rate measurement 1st - ON : ERR count Beginning (30Sec) 2nd - ON : BER display data [%]
[6]	F.Mode switching / Tracking Close / CRG + TR Jump switching

Applicability : G
TYP(2X) → 1X → 2X
TRK MIN SEC → TRK 11 MIN 11 SEC 11 → TRK 22 MIN 22 SEC 22

6.3 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT



• Note :

The grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

• Purpose :

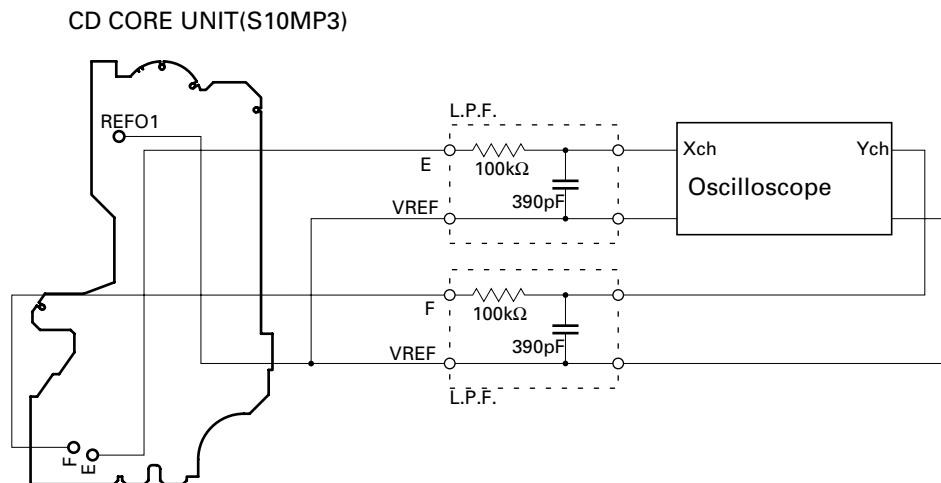
To check that the grating is within an acceptable range when the PU unit is changed.

• Symptoms of Mal-adjustment :

If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or taking a long time for track searching.

• Method :

- | | |
|-----------------------|----------------------------|
| • Measuring Equipment | • Oscilloscope, Two L.P.F. |
| • Measuring Points | • E, F, REFO1 |
| • Disc | • ABEX TCD-782 |
| • Mode | • TEST MODE |



• Checking Procedure

1. In test mode, load the disc and switch the 3V regulator on.
2. Using the → and ← buttons, move the PU unit to the innermost track.
3. Press key 3 to close focus, the display should read "91". Press key 2 to implement the tracking balance adjustment the display should now read "81". Press key 3. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75° . Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

• Note

Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" (the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

• Hint

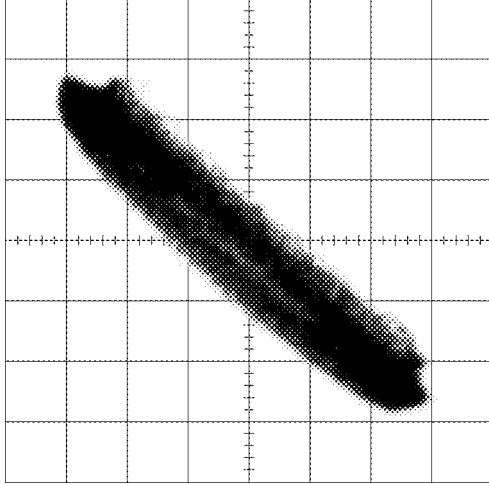
Reloading the disc changes the clamp position and may decrease the "wobble".

Grating waveform

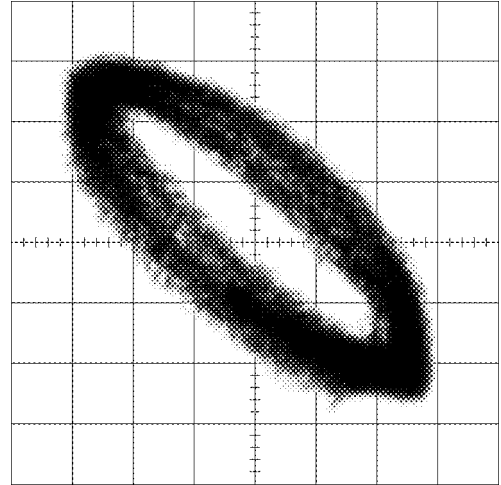
Ech → Xch 20mV/div, AC

Fch → Ych 20mV/div, AC

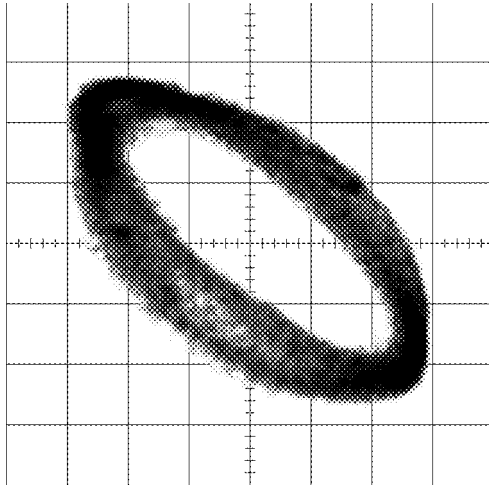
0°



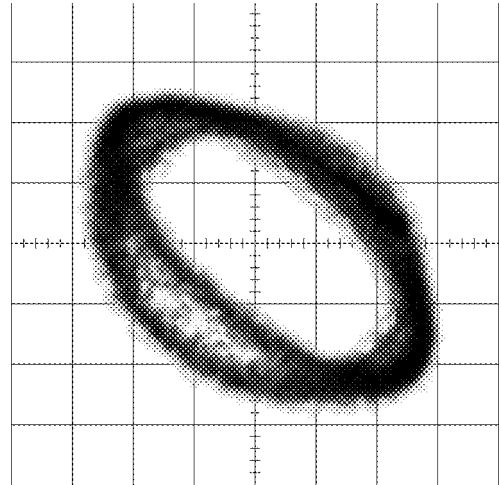
30°



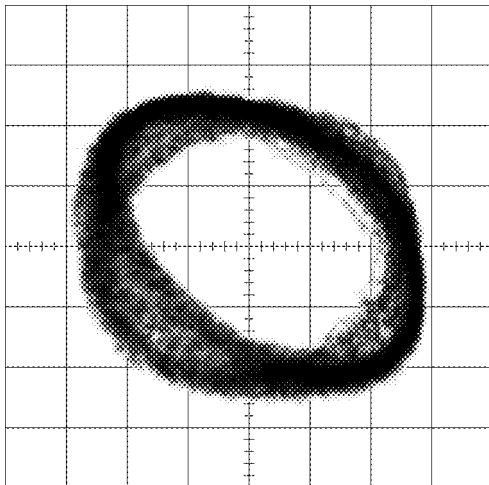
45°



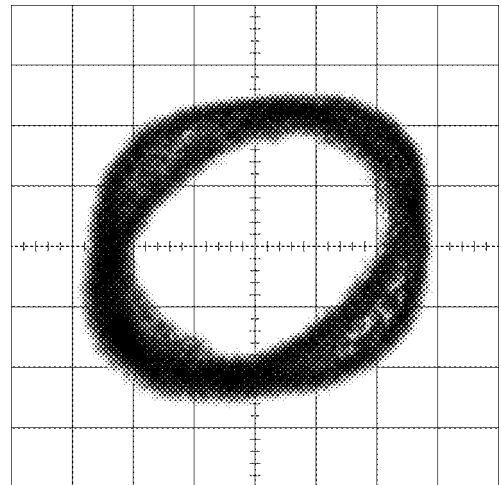
60°



75°



90°



6.4 ERROR MODE

● Error Messages

Error is displayed with number for Error cause when CD is inoperative or stops with Error during operation. The purpose is to reduce nonsense calls from users as well as to assist all related analysis and repair for defects at service station.

(1) Basic Display Method

1) When CSMOD (CD mode area for system) is SERRORM, Error code will be written in DMIN (minutes area for display), DSEC (seconds area for display). The same data shall be written in DMIN and DSEC. DTNO is blank as usual.

2) Display Example of Head Unit

The following is about LCD display ability. xx is Error number.

8 digits	6 digits	4 digits
ERROR-xx	ERR-xx	E-xx
	OR	
	Err-xx	

*) In case of OEM, Error display will follow the specification defined by OEM makers.

(2) Error Code List

No.	Classification	Contents	Details • Cause
10	Electricity	Carriage Home NG	CRG can't move to the inner. CRG can't move from the inner. → HOME SW failure, CRG movement failure.
11	Electricity	Focus Search NG	Focus can't be caught. → Back of Disc / Severe dirt and vibration.
12	Electricity	Spindle Lock NG Subcode NG RF-amp NG	Not spindle, lock. Wrong subcode (can't read). → Defective Spindle. Scratch and dirt on Disc. Intense vibration. The appropriate gain of the RF amp cannot be obtained. → Defective spindle. → Scratched or dirty disc. Severe vibration. Abnormal CD signals. → Blanc CD-R disc. Disc inserted upside down.
17	Electricity	Setup NG	AGC protection doesn't work, out of Focus soon. → Scratch on Disc/Severe dirt and vibration.
22	Disc	Impossible to play	There is no playable MP3 or WMA file present in a disc. → No MP3 or WMA file exists in a CD-ROM disc inserted.
23	Disc	File Format NG	Contents are stored in an incompatible file format. → The contents in a CD-ROM disc inserted are recorded in a file format other than ISO9660 Level-1 and 2.
30	Electricity	Search Time Out	Can't reach the target address. → Defective CRG/tracking, or scratch on Disc.
44	Disc	Impossible to play	There is no playable TRK No. present in a disc. → All TRK Nos. In a disc inserted are specified as a track which should be skipped, in the track skip information.
50	Mecha	Disc Load / Eject NG	Disc loading/ejection cannot be complete. → Foreign objects entered into the mechanism. Disc caught in between during loading/ejection.
A0	System	Power NG	Power supply (VD) isn't connected to the ground. → Defective SW transistor. Abnormal power (failed connector)

Note : Error doesn't display in mechanism only. (CD off causes mechanism off)

If TOC can't be read, error wouldn't occur, but mechanism still continues its operation.

When newly design head unit, be sure to apply as the display examples above.

The upper digits of error code is mainly classified by 3 kinds as follows:

1x: Setup related error, 3x: Search related error, Ax: Other errors.

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 DISASSEMBLY

● Removing the Case (not shown)

1. Remove the Case.

● Removing the CD Mechanism Module (Fig.1)

1 Remove the four screws.

Disconnect the connector and then remove the CD Mechanism Module.

● Removing the Grille Assy (Fig.1)

2 Remove the two screws and then remove the Grille Assy.

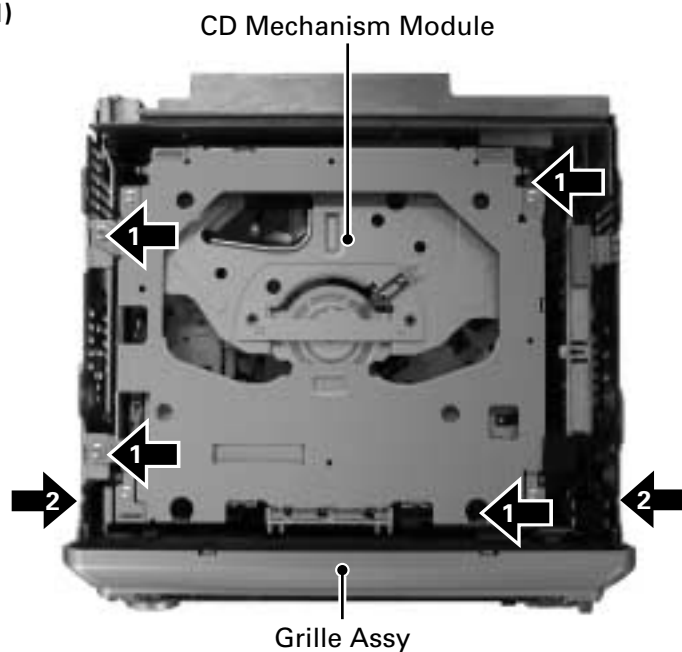


Fig.1

● Removing the Tuner Amp Unit (Fig.2)

1 Remove the screw.

2 Remove the three screws.

3 Straight the tabs at three locations indicated.

4 Remove the screw and then remove the Tuner Amp Unit.

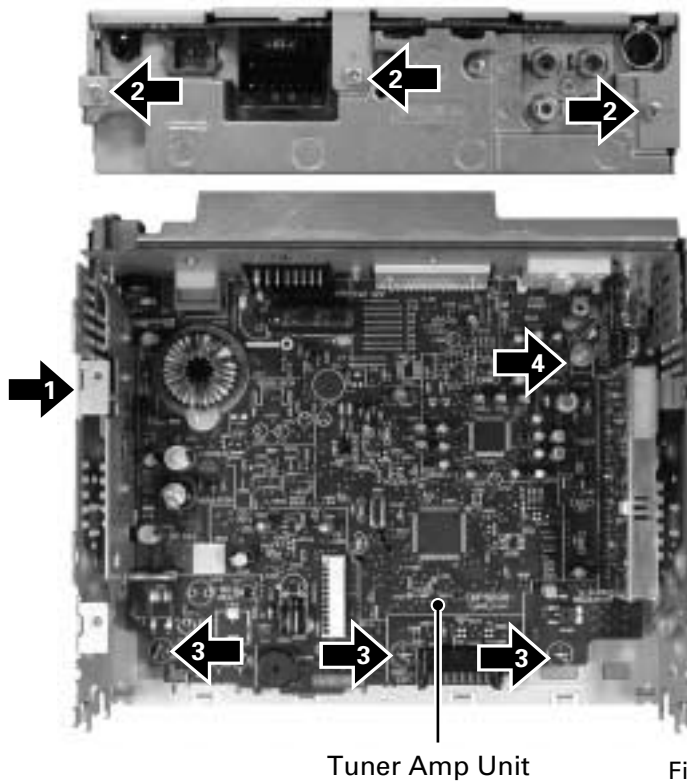
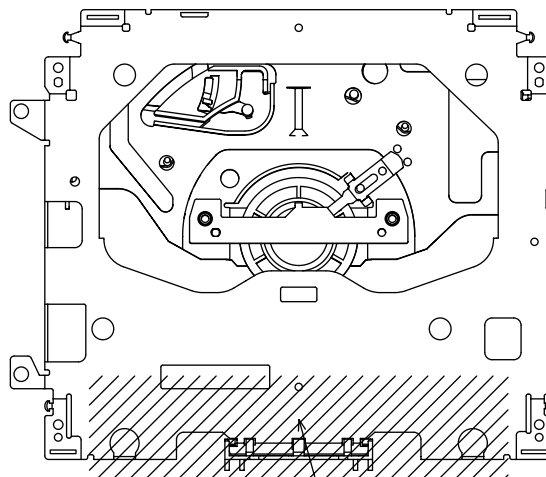


Fig.2

● How to hold the Mechanism Unit

1. Hold the top and bottom frame.
2. Do not squeeze top frame's front portion too tight, because it is fragile.

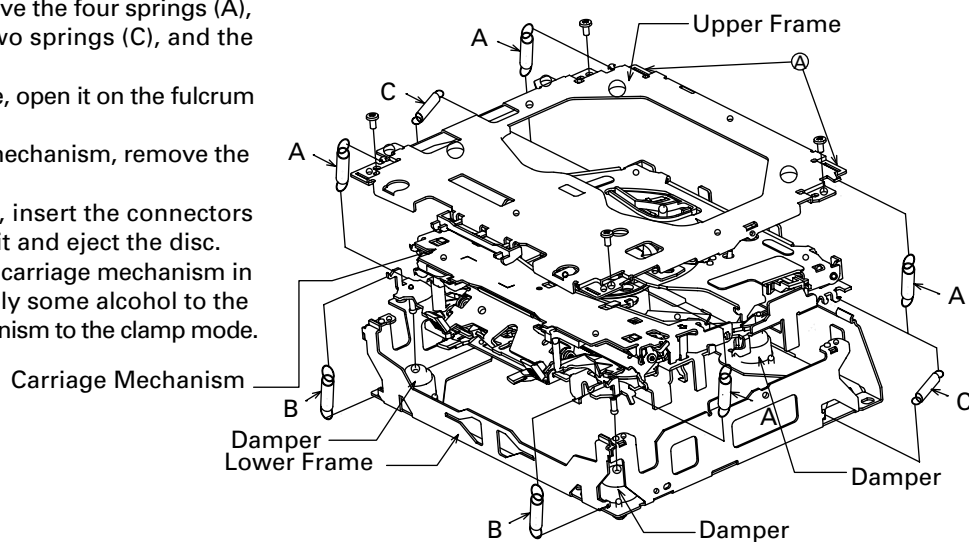


Do not squeeze.

● Removing the Upper and Lower Frames

1. With a disc clamped, remove the four springs (A), the two springs (B), the two springs (C), and the four screws.
2. To remove the upper frame, open it on the fulcrum A.
3. While lifting the carriage mechanism, remove the three dampers.
4. With the frames removed, insert the connectors coming from the main unit and eject the disc.

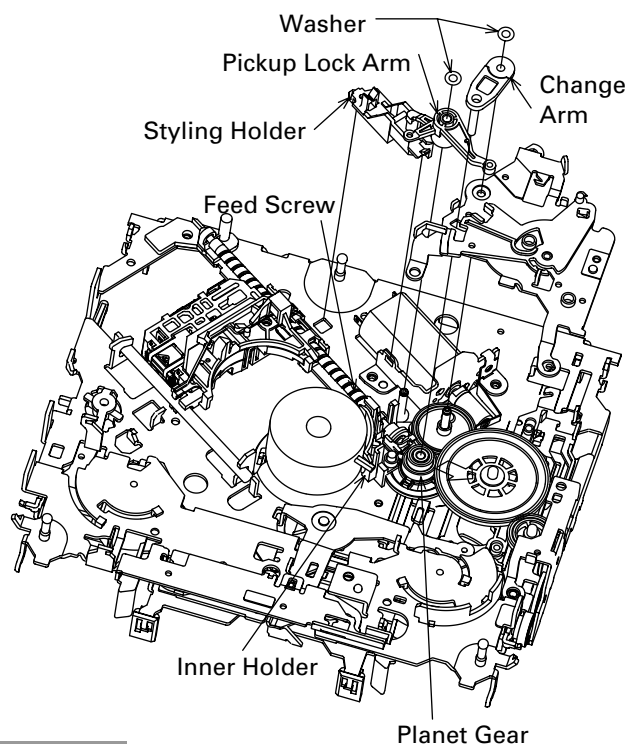
Caution: Before installing the carriage mechanism in the frames, be sure to apply some alcohol to the dampers and set the mechanism to the clamp mode.



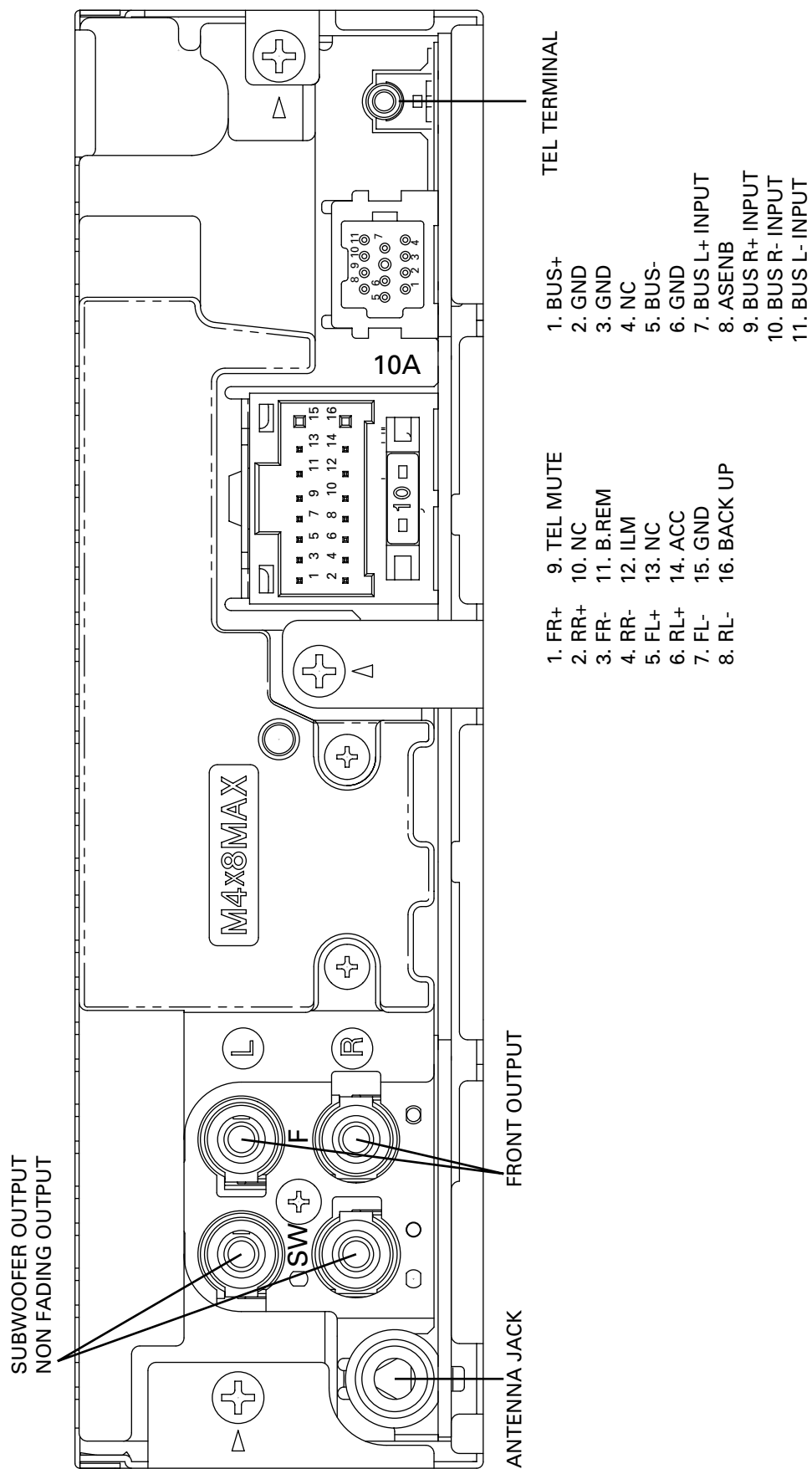
● Removing the Pickup Unit

1. Set the mechanism to the clamp mode.
2. Remove the lead wires from the inner holder.
3. Remove the two washers, styling holder, change arm, and pickup lock arm.
4. While releasing from the hook of the inner holder, lift the end of the feed screw.

Caution: In assembling, move the planet gear to the load/eject position before setting the feed screw in the inner holder.



7.1.2 CONNECTOR FUNCTION DESCRIPTION



7.2 PARTS

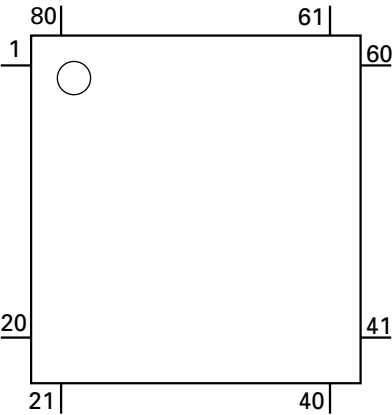
7.2.1 IC

PD6294A	UPD63760GJ
NJM2391DL1-33	UPD61002GC
PD5799A	PE5352B
MSM51V4265EP-70TS	
BA25BC0WFP	

● Pin Functions (PD6294A)

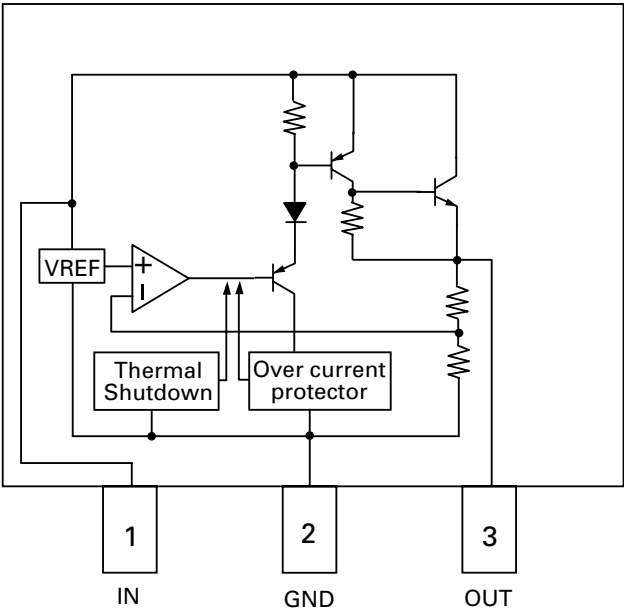
Pin No.	Pin Name	I/O	Function and Operation
1	VSS		GND
2	X1		Crystal oscillator connection pin
3	X0		Crystal oscillator connection pin
4	NC		Not used
5,6	MOD1,0	I	Connect to GND
7	DIMMER	O	Dimmer select output
8	KYDT	O	Key data output
9	DPDT	I	Display data input
10	REMIN	I	Remote control pulse input
11	GRN		Dual Illumination (Green)
12	AMB		Dual Illumination (Amber)
13-16	KD4-1	I	Key data input
17-22	KST6-1	O	Key strobe output
23	VDD		VDD
24-73	SEG49-0	O	LCD segment output
74-77	COM3-0	O	LCD common output
78	VLCD	I	LCD voltage input
79,80	V2,1		Power supply terminal

*PD6294A



IC's marked by * are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

NJM2391DL1-33



● Pin Functions(PD5799A)

Pin No.	Pin Name	I/O	Function and Operation
1	SYSPW	O	System power control output
2	DORAON	O	Tuner unit power supply output
3-5	NC		Not used
6	BYTE	I	External data bus width change input
7	CNVSS	I	Processor mode change input
8	TELIN	I	TEL : Cellular mute input
9	NC		Not used
10	RESET	I	Reset input
11	XOUT	O	Clock output
12	VSS	I	GND
13	XIN	I	Clock input
14	VCC	I	Power supply input
15	NC		Not used
16	RCK		RDS : Clock input
17	LDET		RDS : PLL lock detection input
18	NC		Not used
19	RX2	I	IPBUS : Input 2
20	LCDPW	O	Back light power supply output
21	NC		Not used
22	PEE	O	PEE sound output
23	NC		Not used
24	BRST	O	PBUS : Reset output
25	BRXEN	I/O	PBUS : Communication input/output
26	BSRQ	I	PBUS : Communication demand input
27	RX	I	IPBUS : Input
28	TX	O	IPBUS : Output
29	BSO	O	PBUS : Output
30	BSI	O	PBUS : Input
31	BSCK	O	PBUS : Clock
32	NC		Not used
33	DPDT	O	GRILL : Data output
34	KYDT	I	GRILL : Data input
35, 36	ROT1, 0	I	Rotary encoder pulse input1, 0
37	PCL	O	Output for clock adjustment
38	SWVDD	O	GRILL : Chip enable output
39	DSNS	I	Detach sense input
40	FLPILM	O	Illumination output inside flap
41	ILMPW	O	Illumination output
42	EJTIN	I	Eject key input
43	NC		Not used
44	RDS57K	I	RDS 57K input(Connect with HSLK)
45	RDSLK	I	RDS : Lock signal input
46	RDT	I	RDS : Data input
47-55	NC		Not used
56	CSENSOUT	O	CSENS state output(H : FLAP open)
57	EMUTE	O	EVOL : Mute output
58, 59	NC		Not used
60	VCC	I	Power supply input
61	NC		Not used
62	VSS	I	GND
63-66	NC		Not used
67	DALMON	O	For consumption current reduction
68	NC		Not used
69	TUNPCE2	O	TUNER : Chip enable output(EEPROM)
70	TUNPCE	O	TUNER : Chip enable output(PLL)
71	ROMCS	O	ROM correction : Chip select
72	ASENS	I	ACC sense
73	BSNS	I	Back up sense
74	ROMCK	O	ROM correction : Clock output
75	ROMDATA	I/O	ROM correction : Data input/output

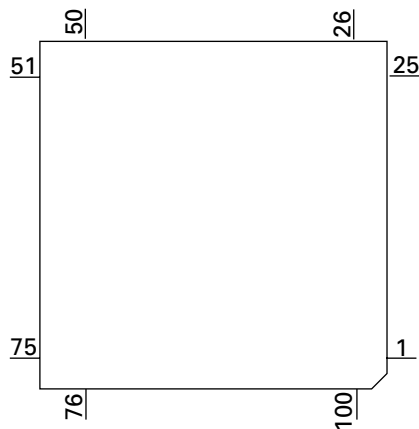
A

Pin No.	Pin Name	I/O	Format	Function and Operation
76	VST	O		EVOL : Strobe output
77	VDT	O		EVOL : Data output
78	VCK	O		EVOL : Clock output
79	IPPW	O		IPBUS : Driver power supply control output
80	ASENBO	O		IPBUS : Slave ACC sense output
81	ISENS	I		Illumination sense input
82-84	NC			Not used
85	MUTE	O		MUTE output
86	TESTIN	I		Test program input
87-89	NC			Not used
90	LVLINR	I		Level indicator R.ch input
91	CSENS	I		Flap opening-and-closing sense input
92	LVLINL	I		Level indicator L.ch input
93	NC			Not used
94	AVSS	I		GND
95	SL	I		TUNER : Signal level input
96	VREF			AD translation reference voltage
97	AVCC	I		AD translation power supply input terminal
98	TUNPDI	I		TUNER : PLL communication
99	TUNPDO	O		TUNER : Data output(PLL)
100	TUNPCK	O		TUNER : Clock output(PLL)

B

C

* PD5799A

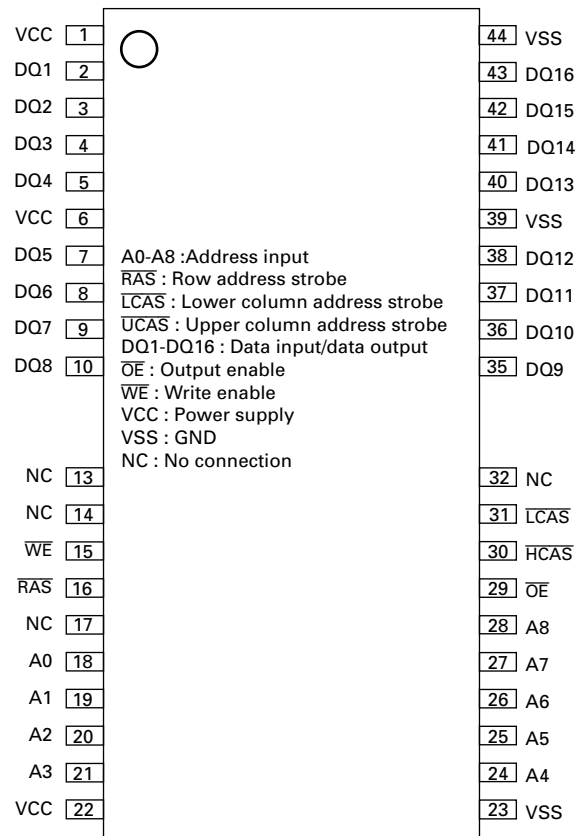


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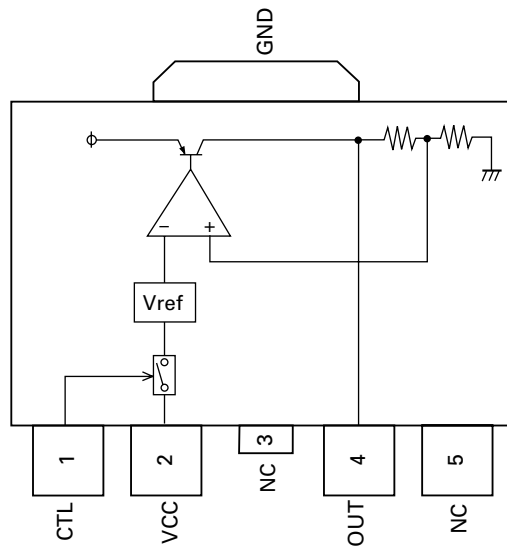
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F

* MSM51V4265EP-70TS



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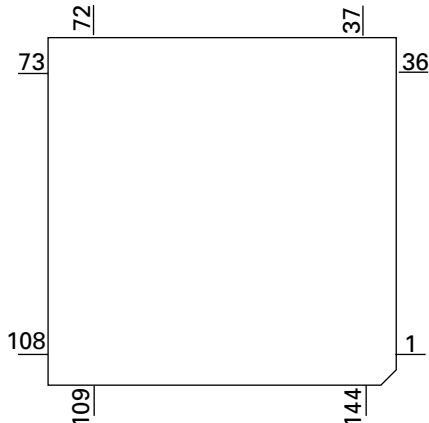


● Pin Functions (UPD63760GJ)

Pin No.	Pin Name	I/O	Function and Operation
1	R.GND		GND for DRAM I/F
2	RST	I	Input of reset
3-7	AB12-8	I	Address bus 12-8 from the microcomputer
8-15	AD7-0	I/O	Address/data bus 7-0 to the microcomputer
16	CS	I	Chip selection
17	ASTB	I	Address strobe
18	READ	I	Control signals (read)
19	WRITE	I	Control signals (write)
20	WAIT	O	Control signals (wait)
21	INTQ		Interruption signals to the external microcomputer
22	IFMODE	I	Switching between the data buses (16bit/8bit)
23	D.VDD		Power supply for digital circuits
24	XTALEN1	I	Permission to oscillate 16.9344MHz
25	XTALEN2	I	Permission to oscillate 24.576MHz
26	DA.VDD		Power supply for DAC
27	ROUT	O	Output of audio for the right channel
28	DA.GND		GND for DAC
29	R+	O	Output of the right channel audio PWM
30	R-	O	Output of the right channel audio PWM
31	REGC		Connected to the capacitor for band gap
32	L-	O	Output of the left channel audio PWM
33	L+	O	Output of the left channel audio PWM
34	DA.GND		GND for DAC
35	LOUT	O	Output of audio for the left channel
36	DA.VDD		Power supply for DAC
37	X.VDD		Power supply for the crystal oscillator
38	XTAL1		Connected to the crystal oscillator (16.9344MHz)
39	XTAL1		Connected to the crystal oscillator (16.9344MHz)
40, 41	X.GND		Ground for the crystal oscillator
42	XTAL2		Connected to the crystal oscillator (24.576MHz)
43	XTAL2		Connected to the crystal oscillator (24.576MHz)
44	X.VDD		Power supply for the crystal oscillator
45	D.GND		GND for digital circuits
46	DIN	I	Input of audio data
47	DOUT	O	Output of audio data
48	SCKIN	I	Clock input for audio data
49	SCKO	O	Clock output for audio data
50	LRCKIN	I	Input of LRCK for audio data
51	LRCK	O	Output LRCK for audio data
52	TESTX	O	Output for tests
53	RFOK	O	Output of RFOK
54	C16M	O	Output of 16.9344MHz
55	TESTEN	I	Connected to GND
56	TEST4	I	Connected to GND
57	D.VDD		Power supply for digital circuits
58	RFCK/HOLD	O	Output of RFCK/HOLD signal
59	WFCK/MIRR	O	Output of WFCK/MIRR signal
60	PLCK	O	Output of PLCK
61	LOCK	O	Output of LOCK
62	C1D1	O	Information on error correction
63	C1D2	O	Information on error correction
64	C2D1(RMUTE)	O	Information on error correction (mute for Rch)
65	C2D2(LMUTE)	O	Information on error correction (mute for Lch)
66	C2D3	O	Information on error correction
67	D.GND		Ground for digital circuits
68	RAS	O	Output of DRAM RAS
69	CAS0	O	Output of DRAM Lower CAS
70	CAS1	O	Output of DRAM Upper CAS
71	WE	O	Output of DRAM WE
72	OE	O	Output of DRAM OE

Pin No.	Pin Name	I/O	Function and Operation
73-88	RDB0-15	I/O	Input/output of DRAM Data0-15
89	D.GND		Ground for digital circuits
90-99	RA0-9	O	Output of DRAM Address0-9
100	D.VDD		Power supply for digital circuits
101-104	TEST0-3	I	Connected to GND
105	FD	O	Output of focus drive PWM
106	TD	O	Output of tracking drive PWM
107	SD	O	Output of thread drive PWM
108	MD	O	Output of spindle drive PWM
109	A.VDD		Power supply for the analog system
110	ATEST	O	Analog tests
111	EFM	O	Output of EFM signals
112	ASY	I	Input of asymmetry
113	C3T		Connection to the capacitor for detecting 3T
114	A.GND		Ground for the analog system
115	RFI	I	Input of RF
116	AGCO	O	Output of RF
117	AGCI	I	Input of AGC
118	RFO	O	Output of RF(AGC)
119, 120	EQ2, 1		Equalizer 2, 1
121	RF2-	I	Reversal input of RF2
122	RF-	I	Reversal input of RF
123	A.GND		Ground for the analog system
124	A	I	Input of A
125	C	I	Input of C
126	B	I	Input of B
127	D	I	Input of D
128	F	I	Input of F
129	E	I	Input of E
130	A.VDD		Power supply for the analog system
131	REFOUT	O	Output of reference voltage
132	REFC		Connected to the capacitor for output of REFOUT
133	FE-	I	Reversal input of FE
134	FEO	O	Output of FE
135	TE-	I	Reversal input of TE
136	TEO	O	Output of TE
137	TE2	O	TE2
138	TEC	I	TEC
139	A.GND		Ground for the analog system
140	LDREGO	O	Output of REG voltage for APC
141	PD	I	Input of PD
142	LD	O	Output of LD
143	PN	I	Assignment of pickup polarity
144	A.VDD		Power supply for the analog system

* UPD63760GJ

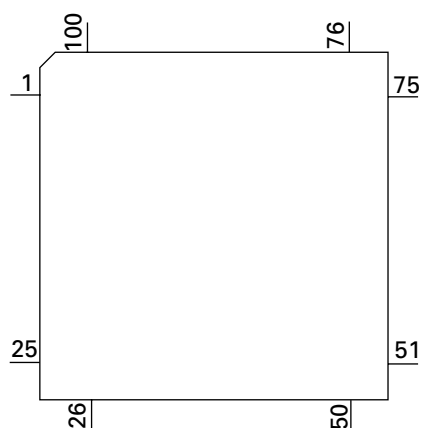


● Pin Function (UPD61002GC)

Pin No.	Pin Name	I/O	Function and Operation
1	VDD3	I/O	Power supply (3.3V)
2-4	NC		Not used
5	GND3		GND
6,7	NC		Not used
8	DO0	O	PCM output data
9	VDD2		Power supply (2.5V)
10	CKI	I	Clock input
11	DVDD		Power supply (PLL) (Digital)
12	AVDD		Power supply (PLL) (Analog)
13	AGND		GND (PLL) (Analog)
14	DGND		GND (PLL) (Digital)
15	VDD3I		Interface terminal protection
16	LRCKO	O	PCM output LRCK
17	BCKO	O	PCM output bit clock
18	NC		Not used
19	VDD3		Power supply (3.3V)
20	GND2		GND
21	MCK44	I	Audio master clock input
22	MCK48	I	Audio master clock input
23,24	P10, 11	I/O	Port
25	VDD2		Power supply (2.5V)
26	GND3		GND
27-32	P12-17	I/O	Port
33	VDD2		Power supply (2.5V)
34	P00/INTP00	I/O	Port
35,36	NC		Not used
37	P03/INTP03	I/O	Port
38	P04/INTP04	I/O	Port
39	P05/INTP05	I/O	Port
40	GND2		GND
41,42	P06, 07	I/O	Port
43	VDD3		Power supply (3.3V)
44-49	HAD0-5	I/O	Host address / Data bus
50	GND3		GND
51	VDD3		Power supply (3.3V)
52-55	HAD6-9	I/O	Host address / Data bus
56	GND3		GND
57-59	HAD10-12	I/O	Host address / Data bus
60	VDD2		Power supply (2.5V)
61-63	HAD13-15	I/O	Host address / Data bus
64	VDD3		Power supply (3.3V)
65	HAST	I	Host address strobe
66	HCSB	I	Host chip select
67	HR/WB	I	Host read / Write status
68	HDSTB	I	Host data strobe
69	GND2		GND
70	NC		Not used
71	EXTDIR	I	Bus direction flag from external
72,73	DBBWRDY0, 1	O	DBB write ready flag
74	DBBRRDY0	O	DBB read ready flag
75	VDD2		Power supply (2.5V)
76	GND3		GND
77	DBBRRDY1	O	DBB read ready flag
78	GND3		GND
79	RESETB	I	Reset
80	GND3		GND
81	VDD3		Power supply (3.3V)
82	GND3		GND
83	PLLCONT	I	PLL control
84	GND3		GND

Pin No.	Pin Name	I/O	Function and Operation
85	NC		Not used
86	GND2		GND
87	DI3	I	PCM input data
88	LRCKI3	I	PCM input LRCK
89	BCKI3	I	PCM input bit clock
90	DI2	I	PCM input data
91	LRCKI2	I	PCM input LRCK
92	BCKI2	I	PCM input bit clock
93	DI1	I	PCM input data
94	LRCKI1	I	PCM input LRCK
95	BCKI1	I	PCM input bit clock
96	VDD2		Power supply (2.5V)
97	DI0	I	PCM input data
98	LRCKI0	I	PCM input LRCK
99	BCKI0	I	PCM input bit clock
100	GND2		GND

*UPD61002GC



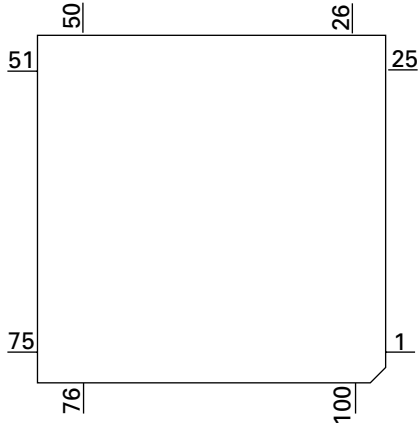
Pin Functions (PE5352B)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	BSO	O	C	P-Bus serial data output
2	BSCK	I/O	/C	P-Bus serial clock input/output
3, 4	DFS1, 2	O	C	DA I/F IC sampling frequency setting output 1, 2
5	DCKS	O	C	DA I/F IC clock subharmonic number selection output
6	EVDD			E power supply Positive power supply
7	EVSS			E power supply GND
8	DSPOK	I		DSP microcomputer initialization OK input
9	DCOPY	O	C	DA I/F IC copy flag setting output
10	CRST	O	C	Compression IC reset control output
11, 12	NC			Not used
13	EMPH	O	C	Emphasis information output
14	EMPH	O	C	Emphasis information output
15	DSPMUTE	O	C	DOUT mute output
16	DSET	O	C	Disc set indicator lighting output
17	ADENA	O	C	A/D reference voltage supply control output
18	IC/VPP			IC : VSS direct connection/VPP : Pull-down
19	BRXEN	I/O	/C	P-Bus reception is possible
20	BSRQ	I/O	/C	P-Bus service request demand
21	XTALEN1	O	C	CD LSI 16.9344MHz oscillation permission output
22	XTALEN2	O	C	CD LSI 24.576MHz oscillation permission output
23	XRST	O	C	CD LSI reset control output
24	VDCONT	O	C	VD power supply control output
25	CD3VON	O	C	CD +3.3V power supply control output
26	CONT	O	C	Servo driver power supply control output
27	XWAIT	I		CD LSI wait control signal input
28	LOEJ	O	C	The direction change output of LOAD/EJECT
29	CLCONT	O	C	Driver input change output
30	CDMUTE	O	C	CD mute control output
31	RESET	I		System reset input
32	XT1	I		Connected to the oscillator for subclock (connected to VSS via the resistor)
33	XT2			Connected to the oscillator for subclock (Open)
34	REGC			Connected to the capacity stabilizing output of the regulator (an electrolytic capacitor of about 1μF)
35	X2			Oscillator connection for mainclock
36	X1	I		Oscillator connection for mainclock
37	VSS			GND
38	VDD			Positive power supply (5V)
39	CLKOUT	O	C	Internal system clock output (Open)
40	XWRITE	O		CD LSI write control signal output
41	UBEN	O		Not used (Open)
42	WR/W	O		WMA decoder Read/Write control signal output
43	XREAD	O		CD LSI read control signal output
44	XASTB	O		CD LSI address strobe output
45	LOCK	I		Spindle lock input
46	WRST	O	C	WMA decoder reset control output
47-54	AD0-7	I/O	/C	Address/Data bus 0-7
55	BVDD			B power supply Positive power supply (3.3V)
56	BVSS			B power supply GND
57-64	AD8-15	I/O	/C	Address/Data bus 8-15
65	XCS	O	C	CD LSI chip selection output
66	WCS	O	C	WMA decoder chip selection output
67, 68	DBBWRDY0, 1	I		Input of write-ready flag with WMA decoder DBBI0, 1
69, 70	DBBRRDY0, 1	I		Input of read-ready flag with WMA decoder DBBO0, 1
71	AVDD			A power supply Positive power supply (5V)
72	AVSS			A power supply GND
73	AVREF			The reference voltage input for A/D converter
74	VDSSENS			VD power supply short sense input
75	DSCSNS			Disc state sense input
76	TEMP			Temperature information sense input

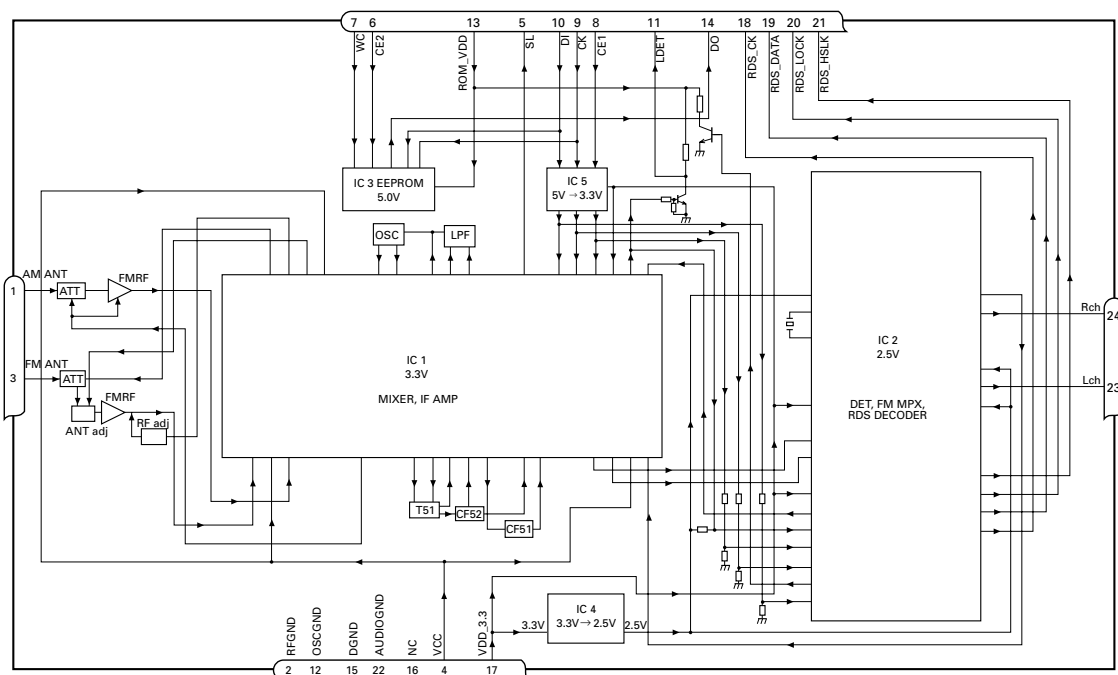
Pin No.	Pin Name	I/O	Format	Function and Operation
77	HOME	I		Home SW sense input
78	$\overline{\text{CSENS}}$	I		Flap closing sense input
79	RFOKIN	I		RFOK input chatter count input
80-82	NC			Connected to AVDD or AVSS via the resistor
83	WMAARI	I		Input of sensing existence of WMA decoder and DA I/F IC
84	TYPE_A/D	I		CD-DA Analog/Digital output change setup
85	$\overline{\text{TESTIN}}$	I		Chip check test program starting input
86	NC			Connected to EVDD or EVSS via the resistor
87	$\overline{\text{XINT}}$			CD LSI interruption signal input
88	$\overline{\text{WINT}}$			WMA decoder interruption signal input
89	BRST	I		P-Bus reset input
90	EJSW	I		Eject key input
91, 92	NC			Open
93	CLAMP	I	C	CLAMP SW sense input
94	ROMDATA	I/O	/C	E2PROM data input/output
95	ROMCS	O	C	E2PROM chip selection output
96	ROMCK	O	C	E2PROM clock output
97	FRXD	I		For flash rewriting (received signal)
98	FTXD	O	C	For flash rewriting (transmitted signal)
99	AO/DO	O	C	The output for Analog/Digital voice output distinction
100	BSI	I		P-Bus serial data input

* PE5352B

Format	Meaning
C	CMOS



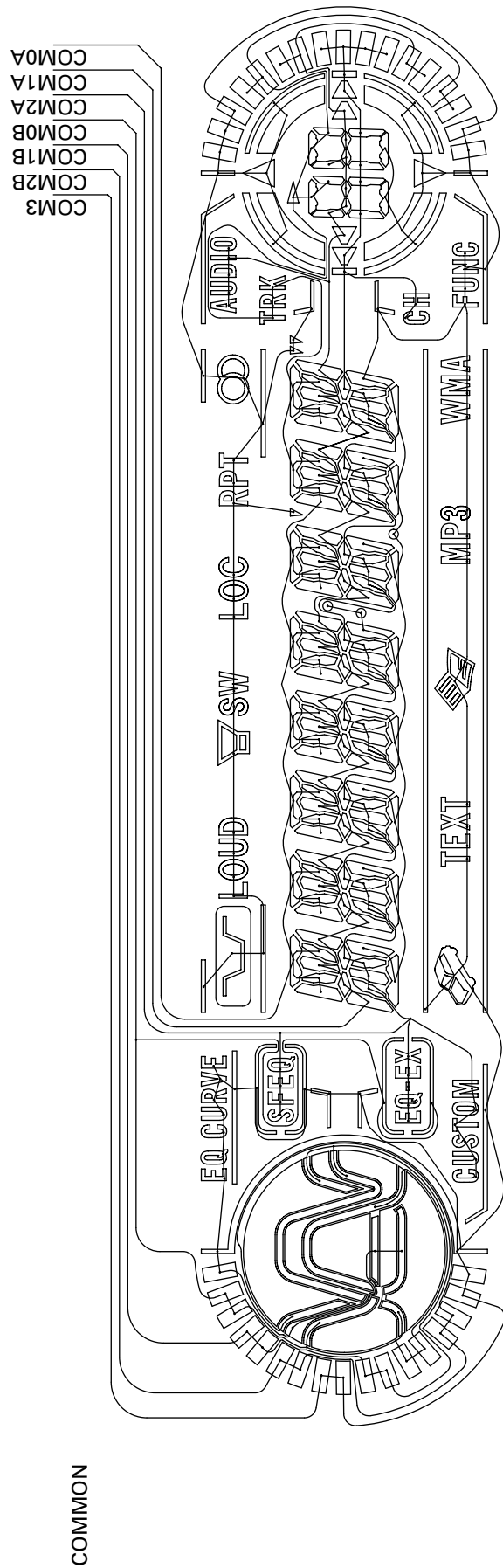
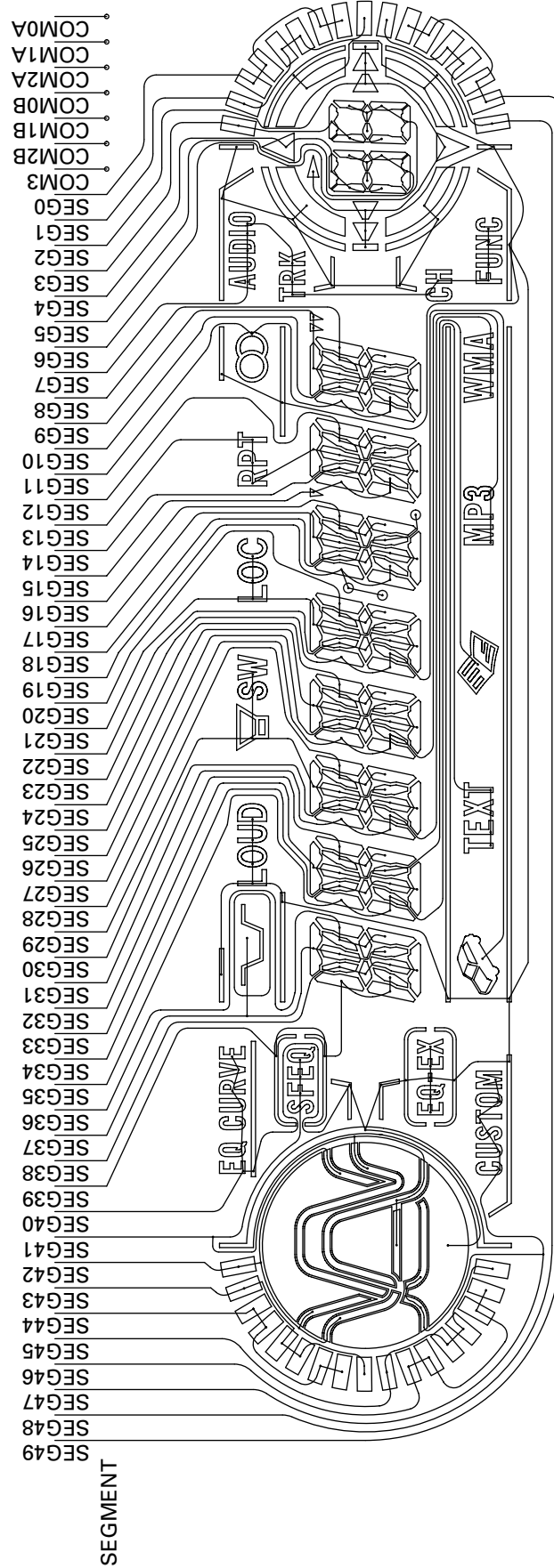
● FM/AM Tuner Unit



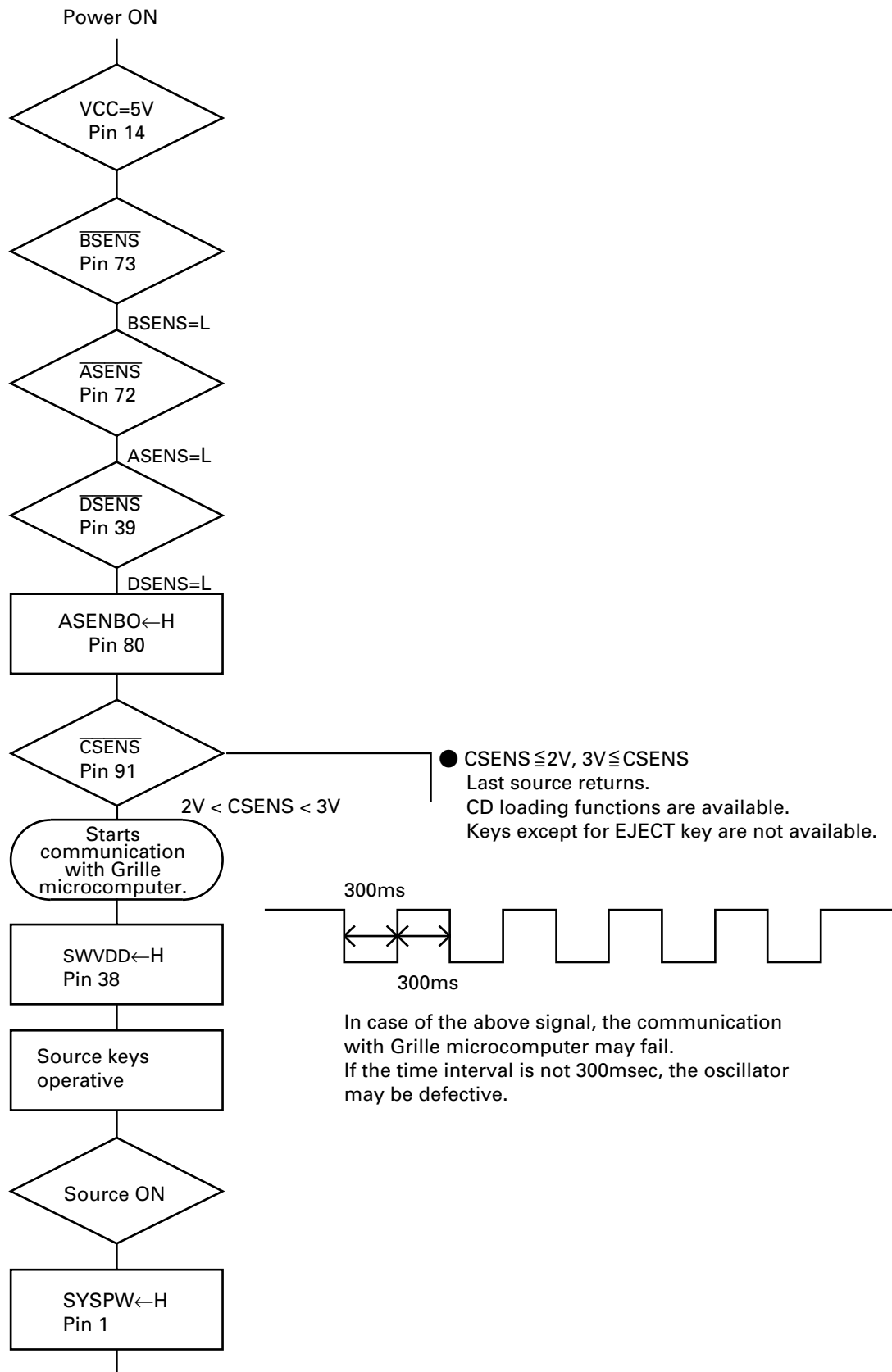
No.	Symbol	I/O	Explain	
1	AMANT	I	AM antenna input	AM antenna input high impedance AMANT pin is connected with an all antenna by way of 4.7μH. (LAU type inductor) A series circuit including an inductor and a resistor is connected with RF ground for the countermeasure against the ham of power transmission line.
2	RFGND		RF ground	Ground of antenna block
3	FMANT	I	FM antenna input	Input of FM antenna 75Ω Surge absorber(DSP-201M-S00B) is necessary.
4	VCC		power supply	The power supply for analog block. D.C 8.4V ± 0.3V
5	SL	O	signal level	Output of FM/AM signals level
6	CE2	I	chip enable-2	Chip enable for EEPROM "Low" active
7	WC	I	write control	You can write EEPROM, when EEPROM write control is "Low". Ordinary non connection
8	CE1	I	chip enable-1	Chip enable for AF•RF "High" active
9	CK	I	clock	Clock
10	DI	I	data in	Data input
11	LDET	O	lock detector	"Low" active
12	OSCGND		osc ground	Ground of oscillator block
13	ROM_VDD		power supply	Power supply for EEPROM pin 13 is connected with a power supply of micro computer.
14	DO	O	data out	Data output
15	DGND		digital ground	Ground of digital block
16	NC		non connection	Not used
17	VDD_3.3		power supply	The power supply for digital block. 3.3V ± 0.2V
18	RDS_CK	O	RDS clock	Output of RDS clock(2.5V)
19	RDS_DATA	O	RDS data	Output of RDS data(2.5V)
20	RDS_LOCK	O	RDS lock	Output unit "High" active(2.5V) (RDS_LOCK turns over by the external transistor. "Low" active)
21	RDS_HSLK	O	RDS high speed lock	Output unit "High" active(2.5V)(RDS_HSLK turns over by the external transistor. "Low" active)
22	AUDIOGND		audio ground	Ground of audio block
23	L ch	O	L channel output	FM stereo "L-ch" signal output or AM audio output
24	R ch	O	R channel output	FM stereo "R-ch" signal output or AM audio output

7.2.2 DISPLAY

● LCD(CAW1752)



7.3 OPERATIONAL FLOW CHART



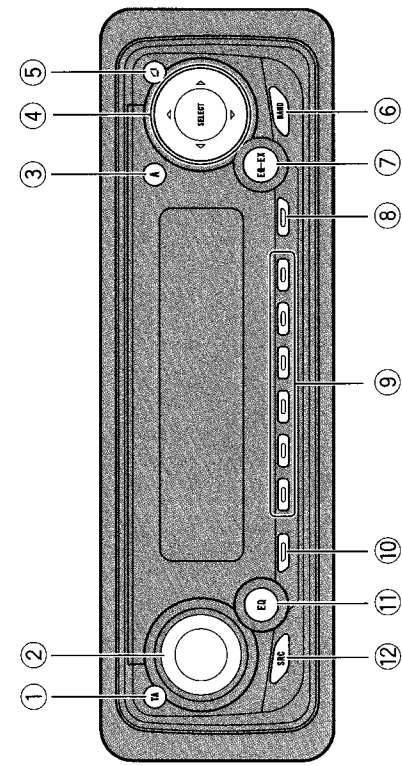
Completes power-on operation.
(After that, proceed to each source operation)

7.4 CLEANING



Before shipping out the product, be sure to clean the following portions by using the prescribed cleaning tools:

Portions to be cleaned	Cleaning tools
CD pickup lenses	Cleaning liquid : GEM1004 Cleaning paper : GED-008



Head unit

① TA button

Press to turn traffic announcements function on or off.

② VOLUME

When you press **VOLUME**, it extends outward so that it becomes easier to turn. To retract **VOLUME**, press it again. Rotate to increase or decrease the volume.

③ AUDIO button

Press to select various sound quality controls.

④ ▲/▼/◀/▶ buttons

Press to do manual seek tuning, fast forward, reverse and track search controls. Also used for controlling functions.

⑤ OPEN button

Press to open the front panel.

⑥ BAND button

Press to select among three FM and MW/LW bands and cancel the control mode of functions.

⑦ EQ-EX button

Press and hold to switch between EQ-EX and SFEQ functions. Press to operate each function.

⑧ FUNCTION button

Press to select functions.

⑨ 1-6 buttons

Press for preset tuning and disc number search when using a multi-CD player.

⑩ DISPLAY button

Press to select different displays.

⑪ EQ button

Press to select various equalizer curves.

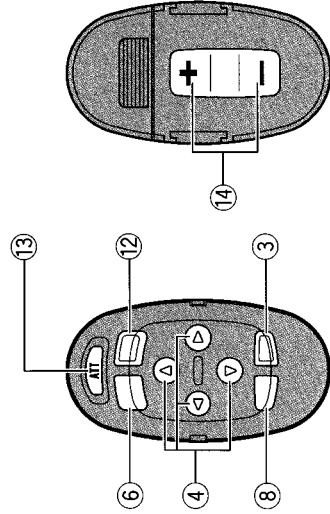
⑫ SOURCE button

This unit is turned on by selecting a source. Press to cycle through all of the available sources. 

Optional remote control

The steering remote control CD-SR100 is sold separately.

8. OPERATIONS



Operation is the same as when using the button on the head unit. See the explanation of the head unit about the operation of each button with the exception of **ATT**, which is explained below.

⑬ ATT button

Press to quickly lower the volume level, by about 90%. Press once more to return to the original volume level.

⑭ VOLUME button

Press to increase or decrease the volume. 

Power ON/OFF

Turning the unit on

- **Press SOURCE to turn the unit on.**
When you select a source the unit is turned on.

Selecting a source

You can select a source you want to listen to. To switch to the built-in CD player, load a disc in this unit.

- **Press SOURCE to select a source.**
Press **SOURCE** repeatedly to switch between the following sources:

Tuner—Television—Built-in CD player—Multi-CD player—External unit 1—External unit 2—AUX—Telephone



Notes

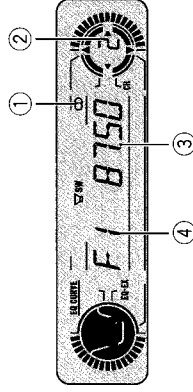
- In the following cases, the sound source will not change:
 - When a unit corresponding to each source is not connected to this unit.
 - When no disc is set in this unit.
 - When no magazine is set in the multi-CD player.
 - When the AUX (auxiliary input) is set to off.
 - When the Telephone standby is set to off.
- External unit refers to a Pioneer product (such as one available in the future) that, although incompatible as a source, enables control of basic functions by this unit. Two external units can be controlled by this unit. When two external units are connected, the allocation of them to external unit 1 or external unit 2 is automatically set by this unit.
 - When this unit's blue/white lead is connected to the car's auto-antenna relay control terminal, the car's antenna extends when this unit's source is turned on. To retract the antenna, turn the source off.

Turning the unit off

- **Press SOURCE and hold until the unit turns off.**

Tuner

Listening to the radio



These are the basic steps necessary to operate the radio.

This unit's AF (alternative frequencies search) function can be turned on and off. AF should be off for normal tuning operation.

① Stereo (CD) indicator

Shows that the frequency selected is being broadcast in stereo.

② Preset number indicator

Shows what preset has been selected.

③ Frequency indicator

Shows to which frequency the tuner is tuned.

④ Band indicator

Shows which band the radio is tuned to, MW, LW or FM.

1 Press SOURCE to select the tuner.

Press **SOURCE** until you see **TUNER** displayed.

2 Use VOLUME to adjust the sound level.

Rotate to increase or decrease the volume.

3 Press BAND to select a band.

Press **BAND** until the desired band is displayed, **F1**, **F2**, **F3** for FM or **MW**/**LW**.

- 4 To perform manual tuning, press ◀ or ▶ with quick presses.
The frequencies move up or down step by step.

- 5 To perform seek tuning, press and hold ◀ or ▶ for about one second and release. The tuner will scan the frequencies until a broadcast strong enough for good reception is found.

- You can cancel seek tuning by pressing either ◀ or ▶ with a quick press.
- If you press and hold ◀ or ▶ you can skip broadcasting stations. Seek tuning starts as soon as you release the buttons.

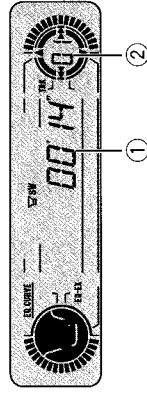


Note

When the frequency selected is being broadcast in stereo the stereo (CD) indicator will light.

Built-in CD Player

Playing a CD



These are the basic steps necessary to play a CD with your built-in CD player.

① Play time indicator

Shows the elapsed playing time of the current track.

② Track number indicator

Shows the track currently playing.

1 Press OPEN to open the front panel.

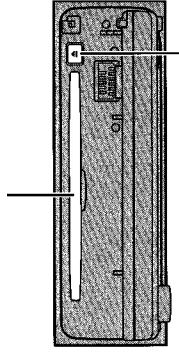
CD loading slot appears.

- After a CD has been inserted, press **SOURCE** to select the built-in CD player.

2 Insert a CD into the CD loading slot.

Playback will automatically start.

CD loading slot



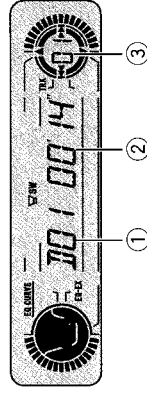
EJECT button

- You can eject a CD by pressing **EJECT**.
- To avoid a malfunction, make sure that no metal object comes into contact with the terminals when the front panel is open.

3 Close the front panel.

Multi-CD Player

Playing a CD



You can use this unit to control a multi-CD player, which is sold separately.

These are the basic steps necessary to play a CD with your multi-CD player.

① Disc number indicator

Shows the disc currently playing.

② Play time indicator

Shows the elapsed playing time of the current track.

③ Track number indicator

Shows the track currently playing.

1 Press SOURCE to select the multi-CD player.

Press **SOURCE** until you see **MULTI CD** displayed.

2 Use VOLUME to adjust the sound level.

Rotate to increase or decrease the volume.

3 Select a disc you want to listen to with the 1-6 buttons.

For discs located at 1 to 6, press the corresponding number button.

If you want to select a disc located at 7 to 12, press and hold the corresponding numbers such as **1** for disc 7, until the disc number appears in the display.

- You can also sequentially select a disc by pressing **▲/▼**.

4 To perform fast forward or reverse, press and hold ◀ or ▶.

5 To skip back or forward to another track, press ◀ or ▶.

Pressing **▶** skips to the start of the next track. Pressing **◀** once skips to the start of the current track. Pressing again will skip to the previous track.



Notes

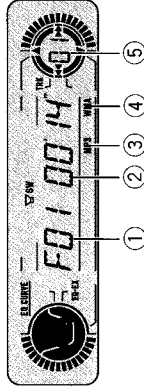
- When the multi-CD player performs the preparatory operations, **READY** is displayed.
- If the multi-CD player does not operate properly, an error message such as **ERROR-11** may be displayed. Refer to the multi-CD player owner's manual.
- If there are no discs in the multi-CD player magazine, **NO DISC** is displayed. □

50-disc multi-CD player

Only those functions described in this manual are supported for 50-disc multi-CD players. □

MP3/WMA Player

Playing a MP3/WMA



These are the basic steps necessary to play an MP3/WMA with your built-in CD player.

- ① **Folder number indicator**
Shows the folder number currently playing.
- ② **Play time indicator**
Shows the elapsed playing time of the current track (file).
- ③ **MP3 indicator**
Shows when the MP3 file is playing.
- ④ **WMA indicator**
Shows when the WMA file is playing.
- ⑤ **Track number indicator**
Shows the track (file) currently playing.
 - ▶ If a track number 100 to 199 is selected, ▶ will light up above the last two digits of the track number.
 - ▶ If a track number 200 or more is selected, ▶ will blink above the last two digits of the track number.

- 1 **Press OPEN to open the front panel.**
CD loading slot appears.
 - ▶ After a CD-ROM has been inserted, press **SOURCE** to select the built-in CD player.

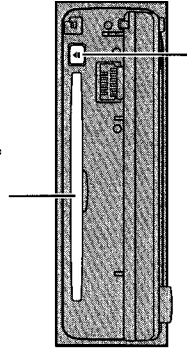
- 2 **Insert a CD-ROM into the CD loading slot.**
Playback will automatically start.

MP3/WMA Player

Notes

- When playing discs with MP3/WMA files and audio data (CD-DA) such as CD-EXTRA and MIXED-MODE CDs, both types can be played only by switching mode between MP3/WMA and CD-DA with **BAND**.
- If you have switched between playback of MP3/WMA files and audio data (CD-DA), playback starts at the first track on the disc. The built-in CD player can play back an MP3/WMA file recorded on CD-ROM.
- Do not insert anything other than a CD into the CD loading slot.
- There is sometimes a delay between starting up playback and the sound being issued. This is particularly the case when playing back multi-session and many folders. When being read in, **FRMTREAD** is displayed.
- If you cannot insert a disc completely or if after you insert a disc the disc does not play, check that the label side of the disc is up. Press **EJECT** to eject the disc, and check the disc for damage before inserting the disc again.
- Playback is carried out in order of file number. Folders are skipped if they contain no files. (If folder 01 (ROOT) contains no files, playback commences with folder 02.)
- When playing back files recorded as VBR (variable bit rate) files, the play time will not be correctly displayed if fast forward or reverse operations are used.
- If inserted disc contains no files that can be played back, **NO AUDIO** is displayed.
- There is no sound on fast forward or reverse.

CD loading slot

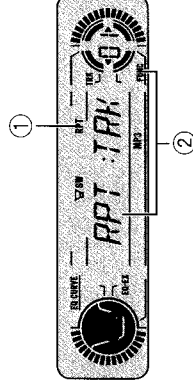


- You can eject a CD-ROM by pressing **EJECT**.
- To avoid a malfunction, make sure that no metal object comes into contact with the terminals when the front panel is open.

- 3 **Close the front panel.**
- 4 **Use VOLUME to adjust the sound level.**
Rotate to increase or decrease the volume.
- 5 **Press ▲ or ▼ to select a folder.**
 - You cannot select a folder that does not have an MP3/WMA file recorded in it.
 - To return to folder 01 (ROOT), press and hold **BAND**. However, if folder 01 (ROOT) contains no files, playback commences with folder 02.
- 6 **To perform fast forward or reverse, press and hold ◀ or ▶.**
 - This is fast forward and reverse operation only for the file being played. This operation is canceled when the previous or next file is reached.
 - If you select the search method to **ROUGH**, pressing and holding ◀ or ▶ enables you to search every ten track in the current folder.

- 7 **To skip back or forward to another track, press ◀ or ▶.**
Pressing ▶ skips to the start of the next track. Pressing ◀ once skips to the start of the current track. Pressing again will skip to the previous track.

Introduction of advanced built-in CD player (MP3/WMA) operation



- ① **RPT indicator**
Shows when repeat range is selected to current track (file).
- ② **Function display**
Shows the function status.
- **Press FUNCTION to display the function names.**
Press **FUNCTION** repeatedly to switch between the following functions:
RPT (repeat play)—**RDM** (random play)—**SCAN** (scan play)—**PAUSE** (pause)—**FF/REV** (search method)—**TAG** (tag display)
 - To return to the playback display, press **BAND**.

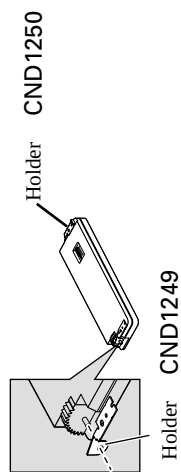
Note

If you do not operate the function within about 30 seconds, the display is automatically returned to the playback display. □

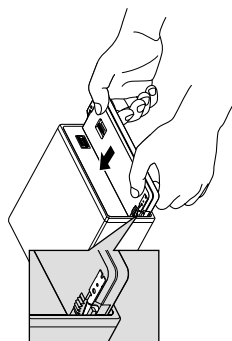
Fixing the Front Panel

If you do not operate the Detaching and Replacing the Front Panel Function, use the supplied fixing screws and fix the front panel to this unit.

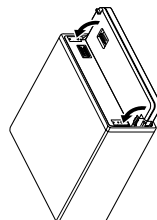
1. Attach the holders to both sides of the front panel.



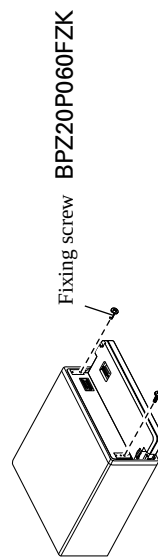
2. Replace the front panel to the unit.



3. Flip the holders into upright positions.



4. Fix the front panel to the unit using fixing screws.



● CONNECTION DIAGRAM

